DELUXEPAINT II

ENHANCED

MANUAL

FOR YOUR IBM

ELECTRONIC ARTS®

DELUXE CREATIVITY SERIES™

DELUXEPAINT II

ENHANCED

MANUAL

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INTRODUCTION

DeluxePaint II Enhanced is a versatile and powerful graphics tool that can help you create artwork more easily than you ever thought possible. Spend just a few hours with us and you'll be creating precise, colorful, and communicative graphics in a fraction of the time it would take using more traditional techniques. The program eliminates the tedium of producing mechanical graphics, so you can concentrate your creative energy on the artwork and have some fun while you're producing exciting designs.

DeluxePaint works like a word processor for graphic art. You can paint from scratch or edit images created in other picture formats. You can move images from one part of a picture to another; cut, copy, pick up, shrink, enlarge, or rotate images, and then paste them throughout your design. Add text and create headlines with color fonts. When you've introduced the elements you want in your picture, you can make global changes to your artwork or make subtle changes with ease using DeluxePaint's special features, like colorize, translucent, remap, anti-aliasing, and more.

Because you can save your work on disk, you can keep many versions of the same design at your fingertips. Edit older versions or combine elements from different versions to get exactly what you want. Save your images separately so you can build a library of clip art to use in future designs. When you're satisfied with a design, you can print it on one of the more than 200 printers supported by DeluxePaint.

ABOUT THIS MANUAL

You don't have to read every word of this manual to become an expert with DeluxePaint. We've organized the information here so you can quickly learn how to get the most out of the program, in a manner best suited to your style and experience. Use the manual as a guide to the program or as a reference handbook. It'll be your best resource while you're learning DeluxePaint, or when you want help with or information about a feature. However, before you do anything with the program:

★ Carefully read *Getting Started* (Chapter 1) to make sure you have the proper equipment and software you'll need to use DeluxePaint, and then follow our instructions for installing DeluxePaint on your hard drive.

After you've read Chapter 1 and installed the program, use the manual in whatever way suits you. Follow our *Guided Tour* or strike off on your own. You can always consult the *Reference* section if you need more information. Here are a few suggested approaches.

BEGINNING COMPUTER GRAPHICS USERS

Work through Chapters 1 and 2 (*Getting Started* and *A Guided Tour*), in order and in detail. These chapters describe the fundamentals and basic tools of the program. You'll start creating with DeluxePaint right away, using the program's tools and techniques to complete simple exercises, and learning about its more complex functions as you go along. When you're ready, move on to Chapter 4 (*Tutorials*) for hands-on instructions about how to use some of the program's advanced features, such as masking and perspective. After that, keep the manual close by so you can consult the *Reference* section for more information about other program features and functions.

EXPERIENCED COMPUTER GRAPHICS USERS

If you already have some experience with graphics programs, start DeluxePaint, work quickly through *A Guided Tour*, and then go to Chapter 4 (*Tutorials*), where you'll get a chance to use a wide sampling of DeluxePaint's unique tools and techniques. We'll explain how these features interrelate and you'll learn how to create your own brushes, customize tools, and mix text with graphics.

USERS WHO DON'T USE MANUALS

If you don't use manuals as a rule, we still hope that you'll read *Getting Started*. After that, *Reference* can answer any questions you may have. It documents every one of DeluxePaint II Enhanced's features by menu item, tool icon, and keyboard command. If you need a quick reference to any program feature, you can find it there.

DELUXEPAINT II USERS

If you're already familiar with the original DeluxePaint II, you'll want to learn about the innovations and improvements in this new version right away. The following is a list of the major changes in DeluxePaint II Enhanced, with brief descriptions and explanations of each one.

★ If you've never used DeluxePaint II, you might consider the information below as an advanced introduction to some of DeluxePaint II Enhanced's most interesting features.

SCREEN FORMATS

DeluxePaint now supports a total of 21 different screen formats (sometimes called *display modes*), including seven Extended VGA (E-VGA) formats. These E-VGA formats are all high resolution (640 x 400 to 1024 x 768) and provide 2 to 256 colors. To see a list of the 21 different E-VGA cards supported by DeluxePaint II Enhanced, press the Spacebar when you're at the opening screen (Figure 1.1). You'll need to obtain an Extended VGA card before you can use the program in those screen formats.

SELECTING TOOL MODES

Several DeluxePaint tools work in more than one mode. You can select from among the available modes by pressing down on the tool icon with the left button and holding the button down. In most cases, this causes a pop-up menu to appear. Make a selection by dragging to the desired mode and releasing the button. For example, you can select filled or unfilled circles by pressing the left mouse button while pointing to the

Ellipse tool, and then dragging the pointer to the pop-up menu and highlighting your choice. Most of the tools in the Toolbox (including Choose Brush, the shape tools, and the magnification tool) have pop-up menus that let you choose a mode instantly.

Like its predecessor, DeluxePaint II Enhanced supports right-clicking on tool icons for making more fundamental modifications. For example, right-clicking on the Fill tool brings up the Fill Type dialog, allowing you to choose from a selection of fill types.

NEW PAINT FEATURES

DeluxePaint II Enhanced introduces a variety of new paint features, making it one of the most sophisticated paint programs available for MS-DOS machines. The following is a summary of these new features. They are described in greater detail in Chapter 5, *Reference*.

BRUSH WRAP

This feature lets you take any custom brush and distort it to the contours of a shape, creating the effect of an image being *wrapped* around a three-dimensional object. Brush Wrap is a type of Fill, and is available from the Fill Type dialog (right-click the Fill tool or one of the filled shape tools to bring up the Fill Type dialog). Use Brush Wrap with regular filled shapes (circle, rectangle) or with freehand or polygon shapes.

FILL TYPES

In addition to Brush Wrap, DeluxePaint II Enhanced now has six distinct types of gradient fill. For example, you can fill an object with a linear or a radial gradient fill (that is, where the gradient fill radiates outward toward the boundary of the object). If you use a linear fill, you can specify any angle for the direction of the gradient simply by moving the directional line attached to the object. You can also have a gradient fill take the shape of the object into account (for example, to create a contour effect), or you can have it ignore the shape of the object. Finally, you can choose to fill any area of your picture, stopping only when the background color is reached. This way you can fill an object that already has a gradient fill. For more information about fill types, see the Fill tool in *Reference*.

ANTI-ALIASING

This important feature helps eliminate jagged lines and boundaries from your painted objects by introducing intermediate shades between the object and the background. Anti-aliasing works with straight and curved lines, with text, with filled and unfilled shapes, and with the freehand drawing tool. See **Anti-Aliasing** under the Misc(ellaneous) menu in *Reference* for more information.

TRANSLUCENT

Creates the effect of a transparency or a gel being laid over part of the picture. Select **Translucent** from the Misc menu, and select the degree of translucency from the Fill Type dialog. When you draw with any tool over existing parts of your picture, what you draw will tint the picture as though it were covered with a tinted gel or transparency. Unless you're using a custom brush or multi-colored font, the tint will be toward the current foreground color. See the Misc menu in *Reference* for more information.

COLORIZE

Lets you apply color to an existing black and white or grayscale image without hiding or smearing the image underneath. Colorize preserves the relative color values in the picture, making this the ideal method for adding color to grayscale images.

PATTERN FILL

You can now paint or fill shapes with built-in patterns, or patterns you create yourself. DeluxePaint's Pattern tool features a pop-up menu, letting you choose from 30 standard patterns, and two custom patterns (multi-color or monochrome). In addition, you can modify the standard pattern set to optimize it for video or printing applications by choosing **Video Patterns** or **Halftones** from the Preferences menu. Patterns work with the Freehand Brush tool, the Shape tools, and the Fill tool.

The 16-color screen formats also use four-pixel checkerboard patterns to create the effect of a greater number of shades. Pressing down on any of the 16 colors in the Palette causes a pop-up menu to appear, displaying 15 additional shades. These additional shades are created by alternating the primary color with each of the other 15 colors in the palette in a checkerboard pattern. This creates the effect of 256 total shades in 16 color modes.

FONTS

DeluxePaint II Enhanced now supports the Hewlett-Packard downloadable LaserJet font format, the most widely used format in the MS-DOS environment. This means that you can purchase additional fonts at retail outlets and copy them into the *monofont* subdirectory in your DPAINT directory. DeluxePaint requires a three-digit suffix for monochrome fonts, beginning with M and followed by a two-digit number to designate the size of the font. For example, the suffix M96 would indicate that it is a 96 *pixel* monochrome font.

★ These monochrome fonts are bit-mapped versions of laser fonts, printed at screen resolution. They don't print at laser resolution.

DeluxePaint also supports the font outline technology from Digi-Font, Inc. Digi-Font supplies outline fonts and a font resizer, which creates bit-mapped versions of the outline font in various sizes. DeluxePaint includes a sampling of Digi-Font typefaces (Century, Italic, and Symbol), together with the resizing software.

★ Additional outline fonts are available directly from Digi-Font, using the order form included in the DeluxePaint package. We've supplied the batch file *dfi*, which you'll use to install these additional fonts, if you buy them. Simply insert the Digi-Font disk in your floppy drive. In DOS, bring up the directory in which DeluxePaint is stored, and type `dfi` at the directory prompt (the default is\DPAINT>).

Finally, DeluxePaint supports a multi-color font format, and includes two sample color fonts, Wood (72) and Chisel (56), that you can use to give special wood-grain or professional chrome highlighting effects to your artwork. Multi-color fonts are stored in their own subdirectory (*clrfont*), and have the suffix C followed by a two-digit number to designate the size of the font.

★ Additional fonts (for example, brick, granite, bevel, and marble) are available directly from Electronic Arts, using the order form included in the DeluxePaint package.

UTILITIES

DeluxePaint II Enhanced includes three separate utilities, making it easy to take screenshots, display your artwork, and convert files among different file formats.

CONVERT

Convert is a file conversion utility, which lets you access files saved as TIFF, MacPaint, Colorix, and Microsoft Windows Paint 2.0. Convert works in both directions, letting you convert DeluxePaint (.LBM) files into other formats, and vice versa. It's also useful for reducing the number of colors in an image and/or resizing an image. DeluxePaint now reads and writes PCX (PC Paintbrush [3.0 or greater]) files directly, so there's no need to use Convert if you wish to read or write PCX files. For more information on *Convert*, see Appendix A.

CAMERA

The Camera utility can take a picture (a "screen dump") of any image you can display and save the picture as a DeluxePaint picture file. Camera now supports the E-VGA modes, letting you take screenshots in all resolution modes supported by the new graphics adapter cards. For more information on *Camera*, see Appendix B.

GALLERY

DeluxePaint's slide show utility, makes it easy to create presentations using artwork from DeluxePaint or other graphic programs. For more information on *Gallery*, see Appendix C.

PRINTING

DeluxePaint supports over 200 different printers, representing more than 20 different manufacturers. You can print color and full-page 300 dpi images from a variety of printers. In addition, DeluxePaint lets you make printouts with sizes up to nine times the height and width of a standard printout, making it easy to create posters of your artwork. For more information, see **Print** in *Reference*.

PICTURE PREVIEW

DeluxePaint displays a miniaturized version of the highlighted picture in the Load Picture dialog box. This makes it easy to find the picture you want without having to rely on its name alone.

HINTS AND REMINDERS WHILE USING DELUXEPAINT II ENHANCED

CONVENTIONS OF THE MANUAL

Several special elements in the manual's text are designed to make learning DeluxePaint II Enhanced easier.

- ▶ Right-pointing triangles indicate action items or steps. They mark how-to sections that present something you should do to understand a program feature or function.
- ■ Solid squares indicate a list of features, functions, or contents. *They do not indicate action items.*
- ★ A note preceded by this symbol indicates important additional information, a warning, or a condition. Be sure to read every item that's labeled this way.

boldface DeluxePaint's menu options appear in the text in simple boldface type. Every menu option is thoroughly described in the *Reference* chapter.

`special` This special monospace typeface indicates characters that you should type.

Enter Refers to the Enter key (sometimes called the Return key) on your keyboard. Enter is indicated on some keyboards by the ↵ symbol.

Backspace Refers to the Backspace key, indicated by the ← symbol on some keyboards.

Control Refers to the Control key (Ctrl) on your keyboard.

Keyboard Equivalents

You can access many of DeluxePaint's tools and functions directly from your keyboard. For example, pressing the letter p displays the Palette dialog, just as if you had chosen **Palette** from the Misc menu. These keyboard commands *are* case sensitive, so when we show a command that requires an uppercase (capital) letter, like Q for **Quit**, make sure you hold down the Shift key as you type the letter. As you become more familiar with the program, you'll find that these keyboard shortcuts can save you a lot of time.

USING THE MOUSE

DeluxePaint II Enhanced is designed for use with a mouse. In this manual, we'll use the term *click* a few different ways to describe some standard mouse actions:

- CLICK means press and quickly release *either* mouse button.
- LEFT-CLICK means press and release the left mouse button.
- RIGHT-CLICK means press and release the right mouse button.
- DOUBLE-CLICK means quickly press and release the designated mouse button *twice*.

DIALOG BOXES

You can make many modifications to your tools and palette through *dialog boxes*. Below are some DeluxePaint II Enhanced window gadgets you may not have encountered in other MS-DOS applications.

RADIO BUTTONS

◉ Radio buttons appear beside items in a group where only one item can be selected at a time. The currently selected option has a black dot in the center — the unselected options are empty. Click a radio button to select it.

CHECK BOXES

Check boxes appear beside options that can be switched on or off. Unlike radio buttons, more than one check box in a group can be selected at a time. When an option is activated, an X appears in the box. Click on a check box to activate the option.

ACTION BUTTONS

Open

Action buttons let you activate the operations made in the dialog box or respond to a prompt. Clicking one of these buttons usually closes the box. Buttons labeled OK accept any changes made to settings since the dialog box was opened. Buttons labeled Cancel close the window without accepting any changes.

In each dialog box there is one action button that is outlined with two lines to make it stand out from the rest. This is the default action button. Pressing Enter on the keyboard automatically selects this button.

LIST WINDOW

A window displays items from which you can choose:

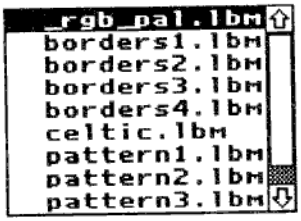


Figure I.1 *Window*

You can scroll through the list of items in a window using the scroll bar or by pressing the up- (↑) or down- (↓) arrow keys. You can also go straight to a directory or file by typing the first letter of its name. For example, if there's an item in the list called designs, which you would like to see, you could press `d` on the keyboard and the highlight would move to the first file that begins with a *d*.

The highlighted item in the list box is the one currently selected. Any action buttons you click in the dialog box will affect the item currently selected. For example, clicking Open in the Load Picture dialog box will load the currently selected file or directory.

★ In a list window, double-clicking on an item is the same as selecting the item and clicking OK or Open.

SCROLL BARS AND SLIDERS

Scroll bars are vertical and used to scroll (move) through a list of items (for example, filenames) that's too large to appear in one window. Sliders are usually horizontal and used to adjust a scale. There are several ways to scroll through a list or to change a value using a slider.

- Click the arrows on either end of the scroll bar or slider.
- Drag the scroll box (the white rectangle within the scroll bar or slider) to one end or the other. As soon as you release the mouse button, your action takes effect.
- Click the shaded area on either side of the scroll box to make the box *jump* to that point.

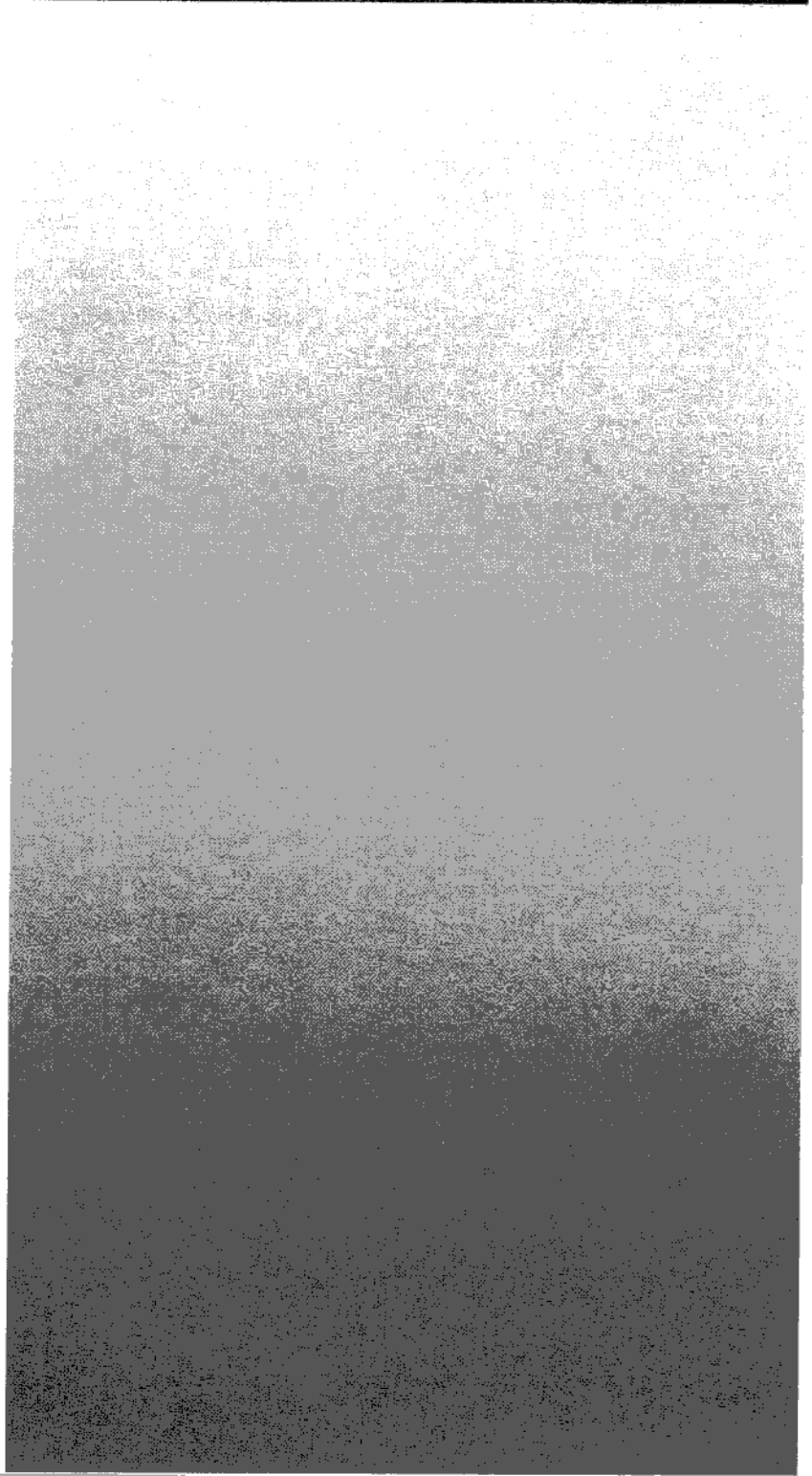
EDIT BOXES

Edit boxes let you enter file names or other information from the keyboard. Click in the edit box to place the cursor, then type any printable characters. Press Backspace to delete characters left of the cursor. Press Del to delete characters right of the cursor. You can use the left (←) and right (→) arrow keys to move the cursor within the box without deleting characters.

If there is more than one edit box in the window, you can move between edit boxes by pressing the Tab key.

Review these brief descriptions if you see something on screen that's unfamiliar. When you're ready to paint, move on to Chapter 1, *Getting Started*.

NOTES



NOTES

In this chapter we'll review the contents of your DeluxePaint II Enhanced package, describe the hardware you need to run the program, and show you how to install it on your hard drive. Then we'll start it up. We'll give you a quick overview of DeluxePaint II Enhanced, highlighting three basic procedures that you'll use often. You'll learn how to

- *load a picture;*
- *save your artwork; and*
- *quit the program.*

BASICS

SOFTWARE

Your DeluxePaint package consists of four 5¼" disks (and two 3½" disks, if you purchased that version). All data on these floppy disks is written in a compressed file format, so *you need to use our installation procedure to copy your set of disks to your hard drive.*

THE FOUR 5¼" DISKS

- The Program Disk contains the DeluxePaint II Enhanced program, printer files, two color fonts, and the installation program.
- The Monofont Disk contains 23 monochrome fonts you can use to add text to your artwork.
- The Utility Disk contains the Convert, Camera, and Gallery utilities.
- The Artwork Disk contains several professionally designed pictures and brushes that you can use in your own work.

THE TWO 3½" DISKS

- The Program Disk contains the DeluxePaint II Enhanced program, printer files, mono- and color fonts, and the installation program.
- The Art and Utility Disk contains pictures and brushes, and the utilities Convert, Camera, and Gallery.

HARDWARE REQUIREMENTS

To run DeluxePaint you need an IBM Personal System/2 or IBM-compatible computer, a hard drive with at least 3MB of available disk space, and 640K of RAM. Your machine must be running on DOS version 2.11 or higher. You'll also need the following:

- a Microsoft-compatible mouse and mouse driver. Consult the manual that came with your hardware for information about installing a mouse driver in your computer;
- a monitor;
- one or more floppy drives; and
- a few formatted disks for saving your artwork (if you don't want to save on your hard drive).
- Finally, you'll need one of the following graphics adapter cards:

  IBM Color/Graphics Adapter (CGA)
  IBM Enhanced Graphics Adapter (EGA)
  IBM Video Graphics Array (VGA)
  IBM Multi-Color Graphics Array (MCGA)
  Hercules Graphic Card (Hercules)
  Tandy Graphics Adapter (TGA)
  Amstrad Adapter
  Extended Video Graphics Array (E-VGA)

★ If you're using an E-VGA card, see *Selecting an E-VGA Card*, below for information about memory requirements.

In the section *Screen Format*, below, we'll show you how to match your graphics adapter with one of the major screen formats that DeluxePaint supports, so you can get the best results your equipment can provide.

INSTALLING DELUXEPAINT ON YOUR HARD DRIVE

We assume that you know how to format blank disks, copy disks, delete files, move files from one disk to another, and install a mouse. If you need to refresh your memory about how to do these important jobs, skim through your DOS documentation before going any further. A few minutes spent now will save you time and effort when you're working on a project.

★ You can make copies of your original DeluxePaint II Enhanced disks and use them to install the program on your hard drive, if you wish.

REMINDER

Since you can't run DeluxePaint from floppy disks, we've included an installation routine on the Program Disk that will install DeluxePaint on your hard drive. You need 3MB of available disk space. When you're ready to install the program, boot your system with DOS 2.11 or greater, and then:

1. Insert the Program Disk, in drive A or B.
2. Type `A:` or `B:` (whichever drive you put the Program Disk in) and press Enter.
3. At the > prompt, type `INSTALL` and press Enter.
4. You're asked on which drive you want to install the program. The default drive is C:. Press Enter to install the program on C:, or type the letter of the drive you want to install the program on, and then press Enter.
5. You're asked to name the directory in which the program will be stored. DPAINT is the default name. Press Enter to name the directory DPAINT, or type a new name and then press Enter.

TIP

If you already have a subdirectory named DPAINT in your root directory and you don't want it to be overwritten:

- Either rename your existing DPAINT subdirectory, or choose a different name for the DeluxePaint II Enhanced subdirectory and then press Enter.

6. When your computer finishes copying the files on the Program Disk, the machine beeps and prompts you to insert the other DeluxePaint disks. Remove the Program Disk from the floppy drive and (in the 5¼" format) insert the Monofont Disk first, then Utility, and finally Artwork. Simply follow the instructions on the screen.

★ DeluxePaint automatically creates the required subdirectories for *monofont*, *clrfont*, *digifont*, and *artwork*.

7. When the computer has copied the files from the Artwork Disk to your hard drive, it displays a screen message that says:

   DeluxePaint II Enhanced—Installation Complete!
   To create a full set of bitmap fonts from the Digi-Font outline fonts included with DeluxePaint, type:

   ```
   Century
   ```

   To Start DeluxePaint, type:

   ```
   CD\DPAINT
   DP
   C: [name of your directory]>
   ```

8. Type `century`. Instructions and information about the century batch file appear and your computer begins to create these fonts automatically. Depending on your machine, the process takes about 20 minutes. These outline fonts improve the quality of the text you'll use in your artwork.

9. When the fonts are created, the C:[name of your directory]> prompt appears. You've finished installing your disks and are ready to begin the *Power Up* section below. Store the original DeluxePaint II Enhanced floppies in a safe place.

PRINTING YOUR ARTWORK

You'll find a list of more than 200 printers supported by DeluxePaint in the back of this manual. Use one of the printers on that list to print your art work. If you need assistance connecting the printer to your computer, your printer manual can help.

POWER UP

When you've installed DeluxePaint on your hard drive, follow these steps to get the program up and running:

- Make sure any peripherals (mouse, printer) are connected to the computer.
- Boot your computer with DOS as you normally would. Make sure any peripheral drivers (software) are installed. Mouse users should run the program provided by the mouse manufacturer to install the mouse driver. This program is typically called MOUSE.COM or something similar.

OS/2 USERS Load your mouse driver in MS-DOS. If you load the mouse in OS/2, DeluxePaint won't find it, and the program won't work properly.

- Type `cd\` and the name of the directory that DeluxePaint II Enhanced is stored under and press Enter. For example, if you chose the default name, DPAINT, you'd type `cd \DPAINT`, and press Enter.
- At the prompt, type `dp` and press Enter.
- Select a screen format. Follow the instructions given in the section *Selecting a Screen Format*, below.

SCREEN FORMAT

When you load DeluxePaint (typed `dp`) a list of the screen formats supported by the program appears. You need to choose a format from this list that's compatible with your hardware and appropriate for the work you want to do. Look at the table below to find out what screen formats are supported by your graphics adapter. Your choice determines the screen resolution and number of colors you can use at one time.

★ Not all so-called "compatible" graphics adapters are fully compatible with the IBM standard. You may need to experiment with some of the different screen formats to see which ones are supported by your graphics adapter.

IF YOU HAVE THIS ADAPTER	CHOOSE ONE OF THESE SCREEN FORMATS
VGA	Any VGA, MCGA, EGA, or CGA format (any format except Hercules, Tandy, and Amstrad)
MCGA	Any MCGA or CGA format
EGA	Any EGA or CGA format (Check your manual to see if you can use the EGA 640 x 350 format)
CGA	Either CGA format
Hercules	Hercules format only
Tandy	Tandy or any CGA format
Amstrad	Amstrad format only
E-VGA	Any format except Hercules, Tandy, and Amstrad

Table 1.1 *Screen Formats Available for Different Graphics Adapters*

Screen resolutions are measured in pixels (shorthand for *picture elements),* and vary from 320 x 200 pixels [low resolution] to 1024 x 768 pixels [high resolution]. Pixels are the smallest graphic units that you can access on the DeluxePaint screen. They're the building blocks of computer graphics, and are used to create all your artwork.

To open and use the higher resolution formats (640 x 350 to 1024 x 768) you'll need more memory than the lower resolution display modes require.

The number of colors that you can use in one painting varies from 2 to 256 depending on the graphics card you have and the format you choose.

If you have any questions about which format to use (or if DeluxePaint doesn't work well with the format you select), consult the specifications in your graphics adapter manual to see what screen resolutions are available.

SELECTING A SCREEN FORMAT

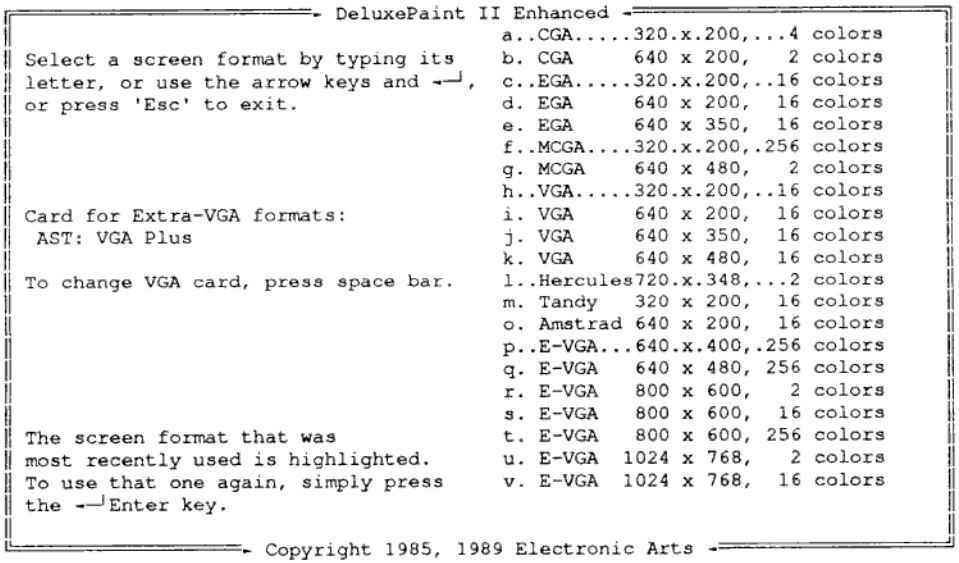


Figure 1.1 *Screen Formats*

★ If you intend to use one of the seven E-VGA formats that DeluxePaint supports (p-v), you need to specify which VGA card you're using *before* you select a screen format. Read the next section *Selecting an E-VGA Graphics Card*, before you choose a screen format.

To select a screen format:

▶ Type the letter that precedes the name of the screen format you want to use. For example, type k for a VGA 640 x 480, 16-color format.

★ If you receive an "Insufficient memory" message when you choose a screen format, select a lower resolution display mode. If you receive this message repeatedly, see Appendix D, *Managing Memory*.

You can also use the down arrow (↓) to move the highlight bar to the format you want. When the appropriate screen format is highlighted, press Enter. If you wish to leave the Screen Format screen without selecting a format, press Esc to return to the DOS prompt.

★ If you know the letter of the screen format option you want to use, you can bypass the Screen Format screen the next time you start DeluxePaint, by typing `dp` [space] and the appropriate screen format letter. For example, if you have a VGA graphics adapter and you wanted to boot the program in 320 x 200 mode, you could type `dp h` to bypass the Screen Format screen.

SELECTING AN E-VGA GRAPHICS CARD

If you've installed an E-VGA card in your computer and want to use one of DeluxePaint's E-VGA formats (p-v), you need to tell the program which card you're using *before* you choose a screen format.

▶ When the Screen Format screen (Figure 1.1) appears, press the Spacebar to display a list of 20 graphics cards.

```
Specify your VGA card by typing its letter, or use the arrow keys and ←┘,
or press 'Esc' to return to main screen.
                    a. standard - no extra formats
                    b. Amdek: VGA ADAPTER/132
                    c. AST: VGA Plus
                    d. ATI: VIP
                    e. ATI: VGA Wonder
                    f. Compaq: VGC Board
                    g. Genoa: VGA
                    h. Orchid: Designer VGA
                    i. Orchid: Designer VGA, 800x600
                    j. Orchid: Pro Designer Plus
                    k. Paradise: VGA Plus
                    l. Paradise: VGA Plus 16
                    m. Paradise: VGA Pro
                    n. Sigma Designs: SigmaVGA
                    o. STB: VGA Extra EM
                    p. Tecmar: VGA
                    q. Tecmar: VGA AD
                    r. Video 7: FastWrite
                    s. Video 7: V-RAM VGA
                    t. Willow: VGA-TV/Publisher's
                    u. Willow: VGA-TV + Genlock
```

Figure 1.2 *E-VGA Adapter Cards*

▶ Highlight the name of your card (or type the letter that precedes its name) and press Esc to return to the main screen.

▶ Choose a screen format (see *Selecting a Screen Format*, above).

★ E-VGA formats require 512K of EMS (Expanded Memory Specification) *in addition to* 640K of base memory to function properly. If you don't have that much memory, remember, your E-VGA card supports all other screen formats except Hercules, Tandy, and Amstrad.

GETTING ACQUAINTED

Once you've loaded (started) the program and selected a screen format appropriate to your graphics card, the Painting Screen appears:

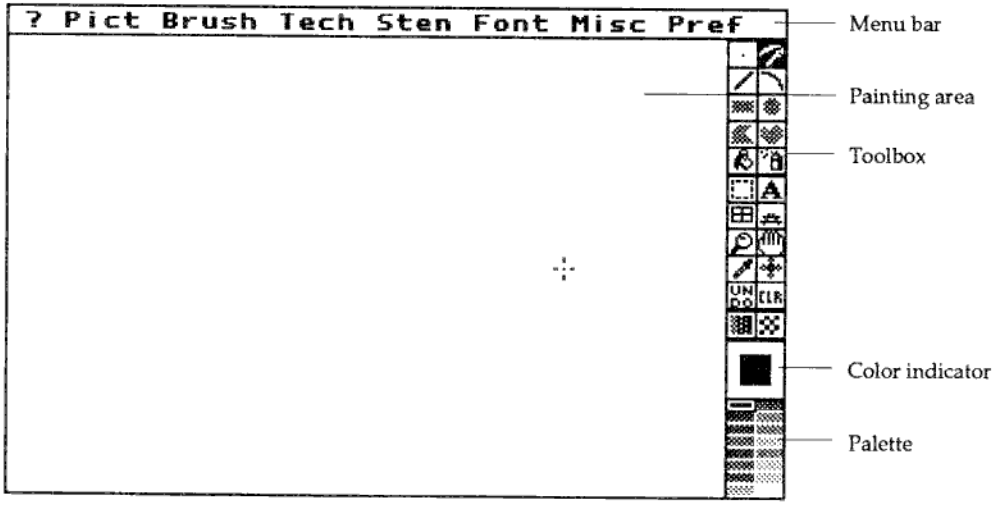


Figure 1.3 *The Painting Screen*

Figure 1.3 shows the Painting Area, the Menu Bar, the Toolbox, and the Palette. Take a quick look at these basic elements so you'll be ready to jump right into *A Guided Tour*.

You'll notice that the basic elements of computer graphics are the same as those used by a traditional painter or designer: a painting area, a palette, and a collection of brushes and art tools. DeluxePaint provides all three basics and, as you'll see, much more.

PAINTING AREA

The Painting Area is your canvas or paper. It's where you'll create, color, edit, and manipulate your art with a well-designed collection of powerful DeluxePaint tools and techniques. Pictures you load from disk also appear in the Painting Screen.

TOOLBOX

You'll use the brushes, shape tools, and tool-modifiers in the Toolbox to create and edit your artwork. When you boot DeluxePaint, the Freehand Brush tool is active by default. You can select another tool just by clicking on it with the left mouse button.

PALETTE

The Palette contains the colors representing your current color spectrum (sometimes called a *color universe*). This is where you select the color with which you want to paint. The number of colors in your Palette depends on your graphics adapter and your current screen format.

- Directly above the Palette is the Color Indicator. The two rectangles display the colors you're currently using to paint. The inner rectangle shows the *foreground* or *brush* color — the color with which your brush is currently painting. The default foreground color is black. The outer rectangle shows the current *background* color — the color you are painting on or over. This color is white by default.

In *A Guided Tour* you'll learn how to select different foreground and background colors and modify the palette.

MENU BAR

DeluxePaint has numerous features and functions that are available through a series of pull-down menus in the Menu Bar at the top of the screen.

Let's take a look at the menus now.

- ▶ Move the pointer to the left side of the Menu Bar and hold down either mouse button.
- ▶ Move the pointer from left to right along the Menu Bar while holding down the mouse button (this is called dragging). The menus drop down one after another, each one displaying its collection of options.

★ When a menu option has a ▶ symbol to its right, it means that the option has a submenu (it appears when you select the option) from which you can specify a particular action. For example, if you select **Delete** from the Picture (Pict) menu, you can choose to delete This Page (the current page), a Picture, a Brush, a Stencil, a PCX file or a PCC file from the submenu. If you don't make a selection from the submenu DeluxePaint uses a default choice, which is always highlighted. Whenever we refer to or ask you to use an option with a submenu we'll add the ▶ symbol and the appropriate sub-option, for example **Delete ▶ This Page**.

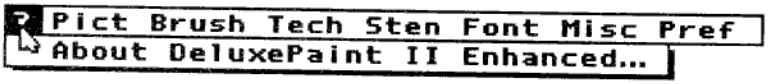


Figure 1.4 *Menu Bar*

You can review each menu option in detail in Chapter 5, *Reference*, but for now we'll use two commands from the Picture menu.

LOADING A PICTURE

When you want to work on a picture that's saved on disk, you'll have to *Load* it into memory. *Saving* and *Loading* are two of the most important functions in DeluxePaint. Let's practice loading and saving with one of the pictures from your hard drive.

- ▶ Move the pointer to the word Picture (Pict in some low-resolution formats) in the Menu Bar and hold down the left mouse button to expose the Picture menu's options.

- Select **Load** from the pull-down menu. To *select* an option drag the pointer down to the option you want to use. When it's highlighted, release the mouse button and the action you requested takes place. In this case the Load Picture window appears.

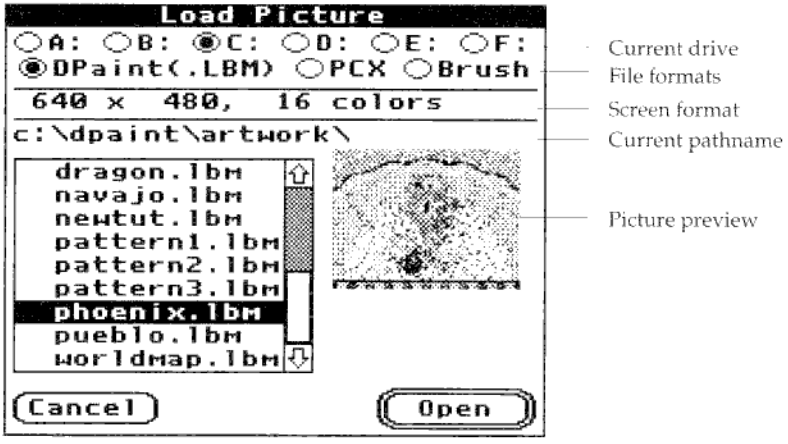


Figure 1.5 *Load Picture Dialog*

Your DeluxePaint package contains several pictures created by professional graphic artists. Let's load the file called phoenix, a stunning 640 x 480 16-color picture of a mythical bird. To load phoenix we have to open the directory where it's stored.

To open a directory, click on the directory's name in the list box to highlight it, and then click Open. To close a directory, press the Backspace key or click on the current path listed at the top of the Load Picture window. Let's open the *artwork* directory now.

- If *artwork* is not highlighted, point to *D* ▶ *artwork* and click a mouse button to highlight it. The D stands for directory. Click Open. A list of the files in the *artwork* directory appears.
- Scroll through the file names to find phoenix.lbm. Click on phoenix.lbm to highlight (select) it. A preview of the picture appears so you can confirm your selection. Click Open.

★ You can also go quickly to the file by typing the first letter of its name —*p* in the case of the phoenix. This will take you immediately to the first file in the list that begins with the letter *p*. You can open the selected file simply by double-clicking on its name.

▶ Click the Open button to load this spectacular picture. The disk drive will work for a few moments, and then the picture appears on the screen.

★ Did the colors in the Palette change as phoenix appeared on the screen? If you did not select screen format k above, they probably did. This is because a picture is loaded with the palette that was used to create it. We'll talk more about this important feature in *A Guided Tour*.

SAVING YOUR WORK

Let's say you want to make a copy of phoenix that you can use for experimenting with your painting tools.

▶ From the Picture menu, drag the highlighted bar down to **Save As** and release the mouse button. The Save Picture dialog appears:

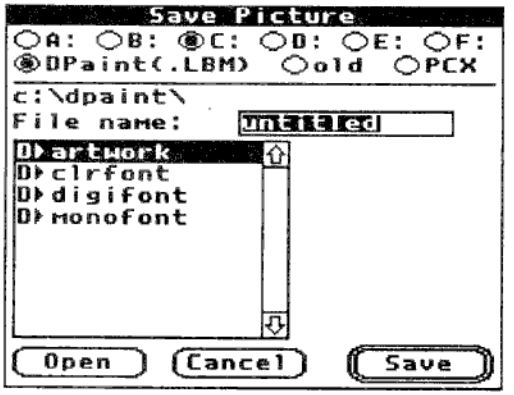


Figure 1.6 *Save Picture Dialog*

- At the top of the window is a row of radio buttons marked A-F. The button for the current drive is black in the center. If you want to save your file to a different drive, click the button beside the letter for that drive.

The current path is listed below the drive buttons: dpaint\artwork\. A path is a hierarchy of directories. The first word in the path, dpaint\, is the current directory. All the words that follow are sub-directories. The sub-directory we're in is *artwork*. The name of our picture, phoenix, appears highlighted in the File name box. To save a copy of phoenix in the *artwork* directory, all you have to do is change the name of the file.

- Type `mybird`. This automatically replaces phoenix in the File name box. If you make a typing mistake, press Backspace (←) on your keyboard to delete the wrong character.
- Click Save in the window to save mybird in the *artwork* directory.

The old file, phoenix, is saved unchanged. Your new file, mybird, is saved to disk and is also the current file on screen.

QUITTING DELUXEPAINT

To quit the program and return to DOS, simply select **Quit** from the Pict(ure) menu. Since you've made no changes to the current picture (file) on screen, the program stops and you're returned to DOS. If you had made any changes to mybird since it was last saved, a window would have appeared when you selected **Quit**, asking "Save changes to picture before quitting? " Click Discard if you don't want to save the changes; click Yes if you want to save them. Click Cancel if you decide not to quit after all.

TECHNICAL SUPPORT

If you have questions about DeluxePaint, and you can't find the answers in this manual, our Technical Support department can help. If your question is not urgent, please write to us at the following address:

Electronic Arts Technical Support
P.O. Box 7578
San Mateo, CA 94403-7578

Please be sure to *include the following information* with any correspondence:

- Which version of DeluxePaint you're using. To check the version number of the program, choose **About DeluxePaint II Enhanced** from the ? Menu while the program is running.
- Which version of DOS you're using and how much random access memory you have installed in your computer. This figure (K) appears on the screen during your machine's boot routine, probably after the words RAM TEST.
- Additional system configuration notes (for example, type and make of monitor, graphics adapter card, printer, etc.).
- Your DeluxePaint Registration Number. You'll find your number on the DeluxePaint Registration Card, which came with your package. For convenient reference, write your Registration Number now in the spaces provided below.

_ _ _ _ _ _ _ _ _ _

If you would like to speak to someone directly, call us at (415) 572-2787 Monday through Friday between 8:30 am and 4:30 pm PST. Again, please be sure to have the appropriate information about your computer, the version number of DeluxePaint, and your Registration number handy when you call. This information will help us answer your questions more quickly.

WHAT'S NEXT?

The next chapter, *A Guided Tour*, introduces you to the fundamental features of DeluxePaint. We've designed the exercises there to be both informative and fun. If this is the first high-quality paint program you've used, we recommend that you go through all the exercises, in order. After the tour you'll have a solid foundation that you can build on. Experienced graphic artists should at least page through *A Guided Tour* quickly. You'll be able to move through it with a minimum of assistance.

NOTES

This chapter takes you on a tour of DeluxePaint II Enhanced's basic features. You'll learn how to select colors in the palette, paint simple designs using tools, create custom brushes, and modify your tools. If DeluxePaint is your first high-quality paint program, we recommend that you work through this chapter from beginning to end. Do this in more than one sitting, if you like.

The chapter is divided into the following sections:

- *Color, Lines, and Shapes:* Teaches you fundamental actions such as selecting colors from the Palette and creating simple shapes with the painting tools.
- *Creating Custom Brushes:* Examines the Custom Brush, a tool integral to many other DeluxePaint activities.
- *Changing Views*: Shows you how to magnify sections of your work, move the document around, switch to the spare page, and hide the Toolbox, Palette, and Info Bar.
- *Modifying Tools*: Teaches you advanced tool techniques and how to modify some of the standard tools.
- *Brush Techniques:* Shows you how to modify your brushes using a few options from the Techniques menu.
- *Keyboard Equivalents:* Takes a quick look at keyboard equivalents.

★ As your work through the exercises in each section, clear your screen (press the CLR tool) when you complete each one. Using CLR will ensure that you get the results we intended you to get.

Figure 2.1 *Toolbox with Palette*

COLORS, LINES, AND SHAPES

In this section, we'll show you how to select colors from the Palette and create shapes, paint lines, and add text using the tools indicated in Figure 2.2.

▶ Start DeluxePaint. Follow the instructions in *Power Up*, Chapter One, if you need help.

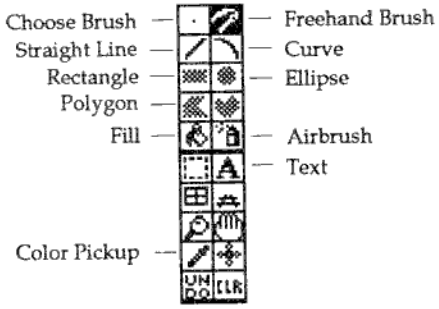


Figure 2.2 *Tools*

SELECTING COLORS FROM THE PALETTE

The Color Indicator displays the current *foreground* and *background* colors. The current foreground color is the color your tools use to paint. The current background color is the color you paint on or over.

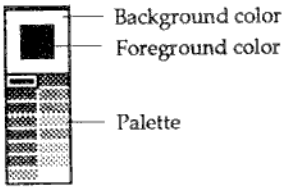


Figure 2.3 *The Color Indicator*

When you boot DeluxePaint the foreground (or brush) color is black, the background color is white by default. You can change foreground and background colors any time by clicking on other colors in the Palette. Try changing your foreground color:

- Move the cursor to any color in the Palette. When the pointer is over the color you want, click the *left* mouse button.

Notice that the box in the middle of the Color Indicator changes to show the new foreground color.

- Move the pointer to the painting area. The pointer turns into a cross-hair with a dot (the brush) in the center of it. This is the Freehand Brush tool, which is active by default when you boot DeluxePaint.

Hold down the left mouse button, draw a small circle and color it in. Release the mouse button to stop painting.

If your first painting attempt was not a masterpiece, don't worry. We can eliminate the evidence. To erase part of your circle:

- Hold down the right mouse button and draw over the filled-in circle. You're now painting with the background color (white), which has the effect of erasing part of your circle (there's no need to erase all of it now).

  This is known as *erasing to the background*, and it demonstrates an important feature of DeluxePaint: Press the left mouse button to paint with the foreground color, and press the right mouse button to paint with the background color.

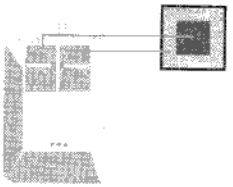


Figure 2.4 *Painting with the Mouse*

Similarly, you can choose a new background color with the right mouse button, just as you chose a new foreground color with the left mouse button.

▶ Move the cursor to a color in the Palette and click the *right* mouse button (don't choose the current foreground color).

The outer box in the Color Indicator changes to show the new background color. Note, however, that the painting area hasn't changed — it's still white, the old background color. Whenever you change background colors, DeluxePaint leaves the old background color on screen as a *wash* until you remove it or erase to it.

CLEARING THE SCREEN

When you want to erase the entire screen, use the CLR tool.

▶ Click on CLR in the Toolbox.

Selecting CLR erases everything on the current screen (or document if it's larger than the screen) and replaces it with the new background color.

UNDOING YOUR LAST ACTION

One of the most useful tools is UNDO. This tool lets you *undo* your last painting action. Let's bring back what was left of the white *wash* that was over the current background color.

▶ Click UNDO in the Toolbox.

UNDO reverses your last action as long as you haven't clicked the mouse in the meantime. For example, if you were to click CLR twice, selecting UNDO wouldn't reverse the clear command.

★ Refreshing the screen (by pressing F10 twice, or toggling the Magnify tool, for example) has the same effect as clicking. You won't be able to UNDO your last painting action.

CHOOSING BRUSHES

So far you've been working with DeluxePaint's default brush. It's small, but you're not limited to this size. You can choose brushes of different sizes and shapes using the Choose Brush tool. Let's select the largest square brush:

- Move the cursor to the Choose Brush icon.
- Hold down the left mouse button on the icon.
- When the pop-up menu appears, move the cursor to highlight the largest square. Release the mouse button. The icon changes to reflect the current brush.

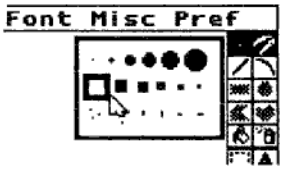


Figure 2.5 *Selecting the large, square brush*

When you move the cursor to the painting area, the large square brush is attached to the crosshair. You can now paint freehand using this brush.

You can enlarge or reduce the size of the current brush without continually returning to the Choose Brush tool. Press the equals (=) key to increase the size of the brush. Press the minus (-) key to reduce the size of the brush.

SWITCHING TOOL MODES

Many of the tools support different modes. For example, the Freehand Brush can paint either Continuous (the default) or Dotted lines. You can use pop-up menus that are *hidden* beneath the tool to switch among these modes. Let's switch to Dotted mode:

- Move the cursor to the Freehand Brush tool icon and hold down the left mouse button.

- When the pop-up menu appears, move the cursor to the left to highlight the Dotted mode. Release the mouse button. The Freehand Brush icon changes to reflect that it's in Dotted mode.

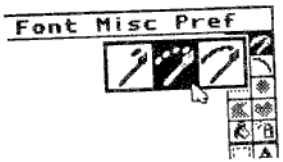


Figure 2.6 *Changing from Continuous Freehand to Dotted Freehand mode*

Now try painting with the Freehand Brush. The Dotted mode allows for faster freehand drawing than the Continuous mode. Note, however, that the faster you go, the bigger the gaps in your line. Try both the Continuous and Dotted modes with different brushes to see how brush size and the speed of your mouse movements affect your painting.

★ The third Freehand Brush mode, Single Stamp, stamps the brush down once every time you click.

SELECTING COLORS FROM THE PAINTING AREA

Clicking colors in the Palette isn't the only way to select foreground and background colors. You can also select colors directly from your artwork. This is especially useful if you're working with many shades of the same color. For example, if you're painting a rose using eight different shades of red, it might be difficult to match a shade you see on the screen by clicking on it in the Palette.

To choose colors from the screen:

- Click the Color Pickup tool and move the cursor to the painting area. The pointer turns into a small target cursor.

- ▶ Place the cursor on the shade you want to pick up. Click the left mouse button to select this color as your new foreground color. Click the right mouse button to select the color as your new background color.

- ★ Clicking automatically deactivates the Color Pickup tool and reactivates the shape or line tool you were using before you chose Color Pickup. If you want to pickup a second color, you need to click Color Pickup again.

PAINTING STRAIGHT LINES

Use the Straight Line tool to paint straight lines at any angle. The width of the line is determined by the size of the currently selected brush. You can paint in both foreground and background colors.

SIMPLE STRAIGHT LINE

Try painting a simple straight line:

- ▶ Left-click on the Straight Line tool and move the cursor to the painting area.
- ▶ Hold down a mouse button and drag the mouse. Release the mouse button when the line is the length you want.

Figure 2.7 *Painting a Straight Line*

CONNECTED LINES

To paint a series of connected straight lines you need to choose Connected Lines mode:

- ▶ Hold down the left mouse button on the Straight Line tool icon. Choose Connected Lines mode from the pop-up menu.
- ▶ Move the cursor to the painting area and paint a line.

- Release the mouse button and move the cursor away from the line you just created. Notice that an elastic line follows your movement. This is the next line in the series of connected lines you've begun. Drag the line out to the length you want and click to paint it.
- Repeat the last step as many times as you want. Press the Spacebar, click on your start point, or click another tool to end the connected lines.

Figure 2.8 *Painting Connected Lines*

PAINTING CURVES

Painting curves is just like painting straight lines except that it requires an additional mouse click to complete the shape. The width of the lines is determined by the size of the currently selected brush.

A SIMPLE CURVE

To paint a simple curve (a curve with two endpoints):

- Left-click on the Curve tool and move the cursor to the painting area.
- At the spot where you want to begin your curve, hold down a mouse button. This is your first endpoint.
- With the mouse button still pressed down, drag the line to where you want the second endpoint and release the mouse button.
- Move the cursor away from the endpoints. Notice that the line moves with cursor, forming an arc between the endpoints and cursor. Click to paint the curve in the current position.

Figure 2.9 *Painting Curves*

CONNECTED CURVES

To paint a series of connected curves:

- Choose Connected Curves mode from the pop-up menu.
- Paint a curve.
- Move the cursor away from the curve you just created. Notice that an elastic line follows your mouse cursor. This is the next curve in the series. Click to place the next endpoint; drag the mouse, and then click to form the curve.
- Repeat the last step as many times as you want. Press the Spacebar to end the connected curves.

PAINTING RECTANGLES

The Rectangle tool lets you paint rectangles and squares in Filled or Unfilled modes. When you first start DeluxePaint, the Rectangle tool is in Filled mode.

Try painting a filled rectangle:

- Left-click on the Rectangle tool.
- Move the cursor to the painting area. The pointer turns into a cross-hair.
- Hold down a mouse button. This is the first corner of the rectangle.
- With the mouse button still pressed down, drag the rectangle in any direction to the size you want. Release the mouse button.

Figure 2.10 *Painting Rectangles*

Painting an Unfilled Rectangle is no different from painting a Filled Rectangle. Just remember that the size of the brush determines the width of the rectangle's frame (its edges).

TWO WAYS TO PAINT SQUARES

You can paint Filled and Unfilled Squares by selecting one of the Square icons in the pop-up menu. Painting squares with this method is the same as painting rectangles.

With the second method, you can paint squares when you're still in Rectangle mode. Simply hold down the *Shift* key as you draw the rectangle. This *constrains* the rectangle so that all four sides are of equal length.

★ Pixels do not appear perfectly square in some formats. As a result, your squares may not appear perfectly square on the screen. You can compensate for this by selecting **Square Aspect** from the Preferences menu. See the discussion under the Preference menu in *Reference*.

PAINTING ELLIPSES

The Ellipse tool lets you draw circles, ellipses, and rotated ellipses in Filled or Unfilled modes. When you first start DeluxePaint, the Ellipse tool is in Filled Circle mode.

CIRCLES

Try painting a Filled Circle:

▶ Left-click the Circle tool.

- Move the cursor to the painting area. The pointer turns into a large crosshair. The crosshair marks the center of the circle.
- Hold down the mouse button and drag the circle until it's the size you want. Release the mouse button.

To paint an Unfilled Circle, select the unfilled circle icon from the pop-up menu and follow the steps above. The width of the line is determined by the size of the brush.

ELLIPSES

To paint a Filled Ellipse:

- Choose the Filled Ellipse mode.
- Move the mouse cursor to the painting area. The pointer turns into a large crosshair.
- Hold down the mouse button and drag the ellipse until it's the size you want. Release the mouse button.

To paint an Unfilled Ellipse, select the unfilled ellipse icon from the pop-up menu and follow the steps above. The width of the line is determined by the size of the brush.

ROTATED ELLIPSES

To paint a Filled Rotated Ellipse:

- Choose the Filled Rotated Ellipse mode.
- Move the cursor to the painting area. The pointer turns into a large crosshair.
- Click a mouse button. Notice that the large crosshair now turns into a small target cursor. Without touching a mouse button, drag the mouse to create an ellipse.

★ If you have a custom brush selected, the large cross hair turns into the arrow cursor when you click the mouse button.

- Once you've drawn the ellipse to the size and shape you want, press and hold down the mouse button. Move the mouse to rotate the ellipse. Once the ellipse is rotated into the right position, release the mouse button.

Unfilled and Filled Rotated Ellipses work the same way. Go ahead and try them.

Figure 2.11 *Painting a Rotated Ellipse*

PAINTING POLYGONS

The Polygon tool lets you draw polygons in Filled or Unfilled modes. When you first start DeluxePaint, the Polygon tool is in Filled mode. To paint a Filled Polygon:

- Left-click the Polygon tool and move the cursor to the painting area.
- Hold down a mouse button and drag the mouse. Release the mouse button when the first edge of the polygon is the length you want.
- Move the cursor away from the line you just created. Notice that an elastic line follows your cursor. This is the next edge of the polygon. Drag the line out to the length you want and click to freeze it.
- Repeat the last step as many times as you want. To close the polygon, connect the last edge with the point from which you started painting. You can also press the Spacebar to connect the first and last points by the shortest path possible.

Figure 2.12 *Painting a Filled Polygon*

To paint an Unfilled Polygon, select the unfilled polygon icon from the pop-up menu and follow the steps above. The width of the line is determined by the size of the brush.

★ See Filled Freehand tool in *Reference* for other ways to paint filled polygons.

USING THE FILL TOOL

The Fill tool fills an *enclosed* area with the current foreground or background color. For this exercise, draw some shapes (it doesn't matter if they're Filled or Unfilled) on the screen. Now do the following:

- Choose a different foreground color from the Palette.
- Left-click on the Fill tool and move the cursor to the painting area. The pointer turns into a paint can.
- Place the paint can on one of the shapes. Click the left mouse button to fill the shape with the foreground color.

The Fill tool fills all the way to the boundaries of an enclosed shape. If the shape isn't completely closed, the paint will *leak out* and fill as much of the screen as possible. If this ever happens, you can stop the filling process by pressing the Spacebar; or click UNDO when the unwanted fill is completed.

The tip of the splash flowing from the paint can is the *activation point*. To fill an area, the activation point must be touching the color of the area you want to fill.

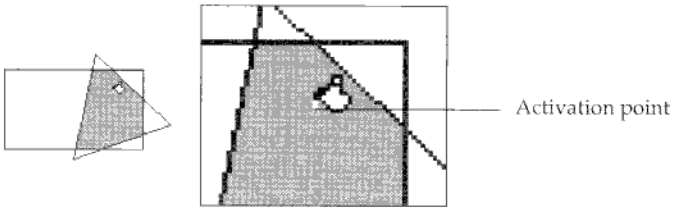


Figure 2.13 *The activation point on the Fill tool*

AIRBRUSH PAINTING

The Airbrush tool paints like an artist's airbrush. You can adjust both how fine the spray is and how wide the paint spreads. To paint with the Airbrush:

- ▶ Select the one-pixel brush from the Choose Brush tool's pop-up menu.
- ▶ Left-click the Airbrush tool and move the cursor to the painting area. The pointer turns into the current brush.
- ▶ Press and hold down the left mouse button to spray in the foreground color.
- ★ If you spray in one spot the paint continues to build up until the area is solidly filled.

The brush you chose from the Choose Brush pop-up menu affects the coarseness of the spray. The bigger the brush, the coarser the spray. You can learn how to control the width of the spray in the discussion of Airbrush in *Reference*.

ADDING TEXT

DeluxePaint's text editor lets you place text anywhere on the page. To enter text:

- ▶ Left-click the Text tool.
- ▶ Move the mouse cursor to the painting area. The pointer turns into the text cursor.

- Left-click where you want to begin the line of text.
- Now type on the keyboard. Press Backspace to correct typing mistakes. You can delete text as long as you haven't pressed Enter, clicked a mouse button, selected a different tool, changed fonts, or moved the mouse over the Toolbox or Menu Bar (so that the text cursor stops flashing).

You can type until the text reaches the edge of the screen. Press Enter to begin a new line directly below the point where you first placed the cursor. You can only type on areas that are showing on the screen. For example, if you press Enter and the text cursor runs off the bottom of the screen, you must use the Hand tool to move the picture until the cursor is back on screen.

CHANGING COLORS, FONTS, AND SIZES

You can change the color of your text by choosing a new foreground color.

- Left-click on any color in the Palette and continue typing.

You can also select different fonts while creating text.

- Right-click on the Text tool to bring up the Choose Font dialog.
- Select a new font from the list box.

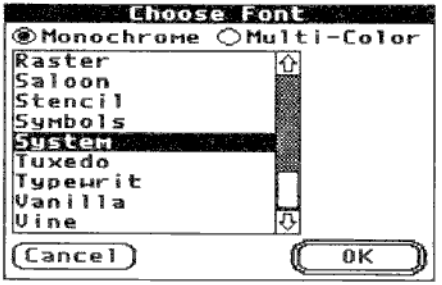


Figure 2.14 *Choose Font Dialog*

Font sizes and style (bold, underline, and italic) can be changed from the Font menu. See Font menu in *Reference*.

QUITTING TEXT MODE

- Press Esc to return to the tool you were using before you selected the Text tool, or select another tool when you're done typing.

CREATING CUSTOM BRUSHES

The Brush Pickup tool will help you get the most from DeluxePaint, because *anything can be a brush* — any piece of artwork or text you put on the screen. The tool gives you two options in its pop-up menu: Rectangle pickup (the default) and Freehand pickup. For the purposes of this exercise, do the following:

- Click CLR to clear the screen.
- Left-click the Rectangle tool, hold down the shift key and draw a small square on the screen.

Let's pick up the square so we can use it as a brush.

- Click the Brush Pickup tool and move the cursor to the painting area. The pointer turns into a large crosshair.
- Position the crosshair at the upper left corner of the square you just painted.
- Hold down the left mouse button and drag the cursor to the lower right corner of the square. Release the mouse button.

Figure 2.15 *Selecting a rectangle with the Brush Pickup tool*

Your new custom brush now has a copy of the square attached to it. Try stamping the brush on the screen.

- Left-click anywhere on the screen to stamp the square brush down.

COPYING AN IMAGE VS. PICKING IT UP

When you created the square custom brush in the exercise above, DeluxePaint made a duplicate of the square and attached it to the arrow cursor, leaving the original image in place on the screen. Let's create another custom brush, only this time we'll pick up the original image at the same time.

- ▶ Click the Brush Pickup tool and move the mouse cursor to the painting area. The pointer turns into a large crosshair.
- ▶ Position the crosshair at the upper left corner of any square.
- ▶ Hold down the *right* mouse button and drag the cursor to the lower right corner of the square. Release the mouse button.

Whether the image gets picked up or merely copied is a function of which mouse button you press. Selecting a custom brush with the left mouse button leaves the original image intact and in position on the screen. Selecting it with the right mouse button picks up the original image of the brush so you can move it to another part of the screen.

★ If any parts of your brush match the current background color, those parts will be transparent to the Brush Pickup tool. In other words, whenever you pick up a brush, you're picking up only the non-background colors; any parts of the brush that were in the background color will remain invisible even after you change to a new background color. This means that you can create brushes with intricate outlines without fear of picking up a rectangle of the surrounding background color.

FREEHAND PICKUP

Though you can use the Rectangle mode to pickup any image, the Freehand mode makes it easier (and often more efficient) to select irregularly shaped objects that you want to make into custom brushes.

- Use the Polygon tool to draw a five-pointed star.

- Press and hold down the left mouse button on the Brush Pickup icon and when the pop-up menu appears, choose the Freehand mode.
- Move the pointer to the painting area.
- Because the star is a kind of polygon, we'll use a technique you learned above (see *Polygon Tool*) to pickup the star. Hold down the left mouse button and trace a side of one of the star points. Release the mouse button — an *elastic* one-pixel line is now attached to the cursor.
- Drag the elastic line out to form the next side of the star point and click a mouse button. Do this as many times as you need to capture the complete star. Pressing the Spacebar automatically closes off a Freehand (polygon) selection; the program draws a straight line from the point where you first pressed down the mouse to your last click.

★ In Freehand mode you can also *corral* an image and turn it into a brush. Hold down the left mouse button and trace the outline of the image you want to capture. Release the mouse button *only* when you've surrounded the image. Pressing the Spacebar automatically closes off a Freehand (corral) selection; the program draws a straight line between the point where you first pressed down the mouse button and the point where you released the button.

Figure 2.16 *Same shape selected in two ways [Rectangle and Freehand]*

CHANGING VIEWS

SPARE PAGE

DeluxePaint gives you two separate pages on which to work. You can use one of the pages as a worktable for creating and editing images and the other as your final *canvas*.

SWITCHING PAGES

When you first open a new file or load a picture, DeluxePaint opens one of the two pages. To move to the other page:

▶ Select **Page<->Spare** from the Picture menu or simply press `j`.

Notice that the Palette you were using follows you to the second page. You can, however, modify the two palettes separately, so you could have, for example, a different background color on each page. The background color of a custom brush, however, remains transparent even if you move it to the spare page with the different background color. See *Creating Custom Brushes* above.

Selecting a tool on one page selects that tool on the other page. This allows you to retain the same tool settings, giving continuity to your work.

★ Stencils and a fixed background do not carry over from one page to another. See *Fixing the Background* under the Stencil menu in *Reference* and *Tutorial Four* in Chapter 4.

COPYING FROM ONE PAGE TO ANOTHER

You can also copy the contents of a picture to the other page. This allows you to experiment freely with the image without fear of destroying your work. To copy the contents of a page to the other page:

▶ Select **Page->Spare** from the Picture menu or press `J`.

If there's already an image on the spare page, this dialog appears:

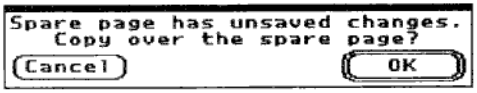


Figure 2.17 *Spare Page dialog*

- If you want to replace the old spare page with the current version, click OK. This will overwrite whatever is on that page and the material there cannot be recoverd (UNDO won't work). Click Cancel if you don't want to replace the old spare page.

MAGNIFYING

There are three ways you can magnify any area of your work and view it alongside the standard-size image. To magnify a section of your work quickly:

- Select the Magnify tool and move the cursor to the painting area. The pointer turns into a rectangular outline. Move the outline to the part of the image you want to magnify and left-click.
- Press `m` to see a magnified view of the area around your cursor.
- Press 2, 3, 4, 6, or 8 on your keyboard to magnify the area around your cursor two, three, four, six, or eight times original size.

Whichever method you use, the screen splits into two parts. The right side shows a magnified view. The left side shows the magnified section of the screen at original scale.

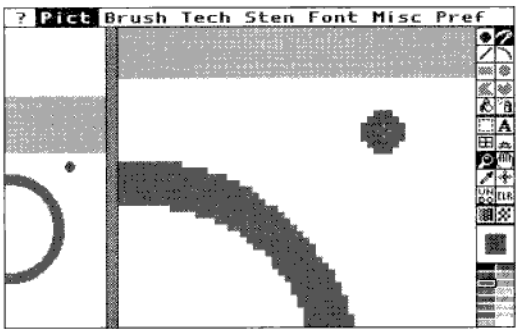


Figure 2.18 *Screen Magnified [Default magnification 4x]*

You can now edit your picture on either side of the screen using the tools from the Toolbox.

INCREASING MAGNIFICATION

If you want more (or less detail), you can increase (or decrease) the power of the Magnify tool.

- ▶ Hold down the left mouse button on the Magnify tool. When the pop-up menu appears, highlight the magnification power you want.

ENLARGING/REDUCING THE SIZE OF THE MAGNIFIED VIEW

When the Magnify tool is active, a gray bar divides the screen into magnified and unmagnified views. To enlarge or reduce the size of the magnified view:

- ▶ Point the cursor at the gray bar. When the cursor turns into a double-headed arrow, hold down the mouse button and drag the bar where you want it.
- ★ The only constraint on enlarging the magnified view is that the magnified selection must be completely visible in the unmagnified section of the screen.

RETURNING TO NORMAL MAGNIFICATION

To return to the normal magnification:

- ▶ Click the Magnify tool a second time, press `m`, or press `1` on the keyboard.

MOVING THE PICTURE

When you want to view another part of your painting, you can move the picture around in the window by dragging it with the Hand tool. The Hand tool is very useful if you're working in Magnify mode or on a small screen, especially if you need to move the document often.

- Press m, which selects the Magnify tool and magnifies part of the screen at the last magnification you used. If you haven't used magnification in the current work session, DeluxePaint uses the default magnification (4x).
- Left-click the Hand tool and move the cursor to the magnified part of the screen. The pointer turns into a hand.
- Drag the document up, down, left, or right to see other parts of the picture. The picture moves to a new position when you release the mouse button.
- ★ You can also use the four arrow keys on the numeric keypad to move your picture in a corresponding direction on the screen. The cursor must be in the painting area to use the arrow keys.

HIDING THE TOOLS AND MENU BAR

If you want to use every bit of available space on the page for your drawing, you can hide the Toolbox and Menu Bar.

- Press F10 to remove the Toolbox and Menu Bar.
- Press F10 again to bring them both back.

USING THE INFO BAR

The Info Bar at the bottom of the screen displays a variety of helpful information about fills, stencils, filenames, painting modes, cursor coordinates, and rotation angles.

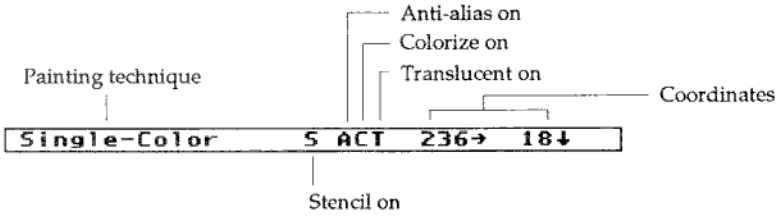


Figure 2.19 *Info Bar*

To turn the Info Bar on:

- Select **Info Bar** from the Misc menu or simply press F9.
- Press F9 again to turn the Info Bar back off.

You'll use the Info Bar often when you work with Perspective.

MODIFYING THE TOOLS

In many cases, clicking a tool icon with the right mouse button lets you modify some fundamental aspect of that tool from a dialog box or on screen. Here are some examples.

STRAIGHT LINE, CURVE, AND UNFILLED SHAPE TOOLS

A right-click in any of these tools brings up the Frame Type dialog.

- Left-click in the Straight Line tool. Move the cursor to the painting area and paint a line across the screen. You can see that the line is continuous, that is, unbroken.
- Right-click on the Straight Line tool. The Frame Type dialog appears.

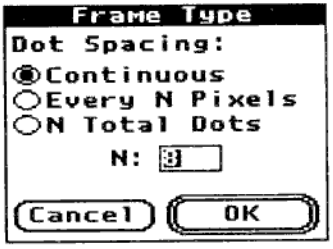


Figure 2.20 *Frame Type Dialog*

This dialog lets you control the distance between "splats" in your lines. From here you choose whether a line is Continuous (the default) or dotted. If you want a dotted line, you can define the line in terms of the total number of dots (N Total Dots) or by the number of pixels between the dots (Every N Pixels).

- Left-click Every N Pixels. You're telling DeluxePaint to draw a "splat" of paint every 8 pixels (8 is the default).
- Draw a line just below the Continuous line on your screen. The new line is dotted, with one dot appearing every 8 pixels, just as you instructed.

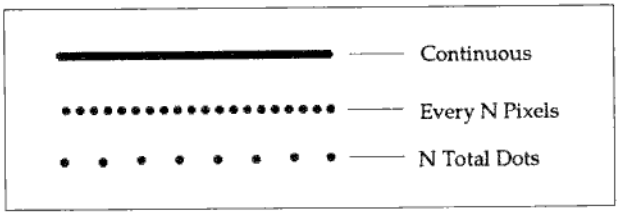
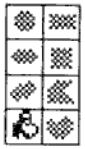


Figure 2.21 *Lines drawn with different settings in the Frame Type Dialog: N = 8 here.*

★ The Frame Type dialog is so called because you also control the *frame* (or border) of Unfilled shapes from here.

FILL AND FILLED SHAPE TOOLS



Right-clicking any of these icons brings up the Fill Type dialog. From here you choose one of several fill types for your fills and filled shapes. The multiple features and functions of the Fill Type dialog are discussed in detail in both *Tutorial 1* and *Reference*.

BRUSH PICKUP

Right-clicking the Brush Pickup restores the last custom brush. So if you make a modification to the current custom brush, right-clicking restores the unmodified version of the brush. This feature is also useful if you create a custom brush and then select a built-in brush. Right-clicking the Brush Pickup will restore the last custom brush as the active tool.

★ If you make *more* than one modification to the current custom brush, DeluxePaint can only revert to the brush in effect before the last modification when you right-click.

GRID

The Grid tool is a kind of generic tool modifier: all the tools that are affected by it, are affected in the same way. Grid lets you apply paint on the page according to an invisible grid, which restricts your painting tools to the grid points. These points can help you draw coinciding lines and shapes with precision. To draw on a grid:

► Click the Grid icon with the left mouse button, then click the Freehand Brush tool. Select the Dotted mode and paint a line across the screen.

You'll notice that your paint appears only at fixed points of the grid, making it easy to fill the screen with a regular polka-dot pattern (we'll see other methods for pattern design later).

You can also control the spacing between the grid points.

- Click the Grid icon with the right mouse button to bring up the Grid dialog. You can now set the spacing for both the X (horizontal) and the Y (vertical) coordinates by typing in the actual spacing in the edit boxes. (Note that the spacing is calibrated in pixels.) Click in the X-spacing text box, Delete or Backspace to remove the existing value, and then type in the new value — try 20. Do the same with the Y-spacing. Click OK.

- Now try painting on the new grid with the Freehand Brush (Dotted mode) to see how the grid has changed.

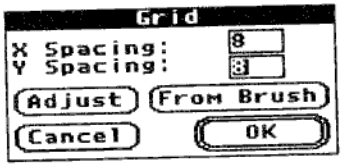


Figure 2.22 *Grid Dialog*

You can also recalibrate the grid by using a visual method (as opposed to the above numeric entry method):

- Click the Grid Tool with the right mouse button to display the dialog and click Adjust. You are returned to the page with a cursor that looks like a matrix. This matrix represents the current grid values in graphic form. To change the values, press and hold down the left mouse button, drag the mouse until the matrix is the desired size and shape, and then release the button.

The new grid is based on this matrix. You can also reposition the points of the grid using Adjust. Move the matrix so that its cells are in the desired position and click the left button.

★ You can use the spacing values of the current brush to fix the grid points by clicking From Brush in the Grid dialog.

SYMMETRY

When you activate the Symmetry tool, you can paint symmetrically with any tool (including a custom brush) over the entire page at the same time. To paint symmetrically:

- Click the Symmetry tool with the left mouse button. Paint whatever you like using the Freehand Brush tool in Dotted mode.

With symmetry selected, your brush is made up of a number of mirror images of itself. As you move the brush around, all the mirror images move as well, producing an effect much like that of a kaleidoscope. When you paint in symmetry mode, you're laying down a number of identical mirror images about a fixed origin. In all cases except the Dotted and Continuous modes of the Freehand Brush, the mirror images are drawn *after* you release the mouse button. With the Dotted and Continuous Freehand tools, all the images are drawn at the same time.

You can change the settings for the type of symmetry you use by clicking the Symmetry tool with the right mouse button. This brings up the Symmetry Options dialog. You'll find a brief explanation of each of the options in *Reference*. For now, if you want to experiment, try changing the settings and painting with different shapes.

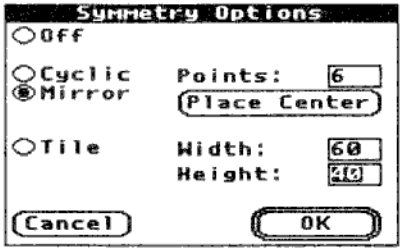


Figure 2.23 *Symmetry Options Dialog*

PAINTING TECHNIQUES

In *Reference*, under the Techniques menu we'll go through all of the various ways you can apply paint to a page or affect paint that's already there. For now, we'll whet your appetite for more information about these versatile techniques by briefly demonstrating three of them: Smearing, Shading, and Cycling.

SMEARING COLORS

You can smears colors just as if you were smearing a wet oil painting with your fingers.

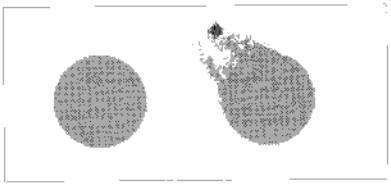


Figure 2.24 *Smear effects*

To smear colors on your picture:

- Select a brush no larger than one fourth the size of your screen; paint with several different colors in the same area of your screen. Painting one color on top of another is fine.
- Select **Smear** from the Techniques menu or simply press F4.
- Holding down the left mouse button, move the brush over the area on which you painted. Colors below the brush are dragged in the direction the brush is moved.

When **Smear** is activated, brushes won't add new colors. Only the brush's *shape* affects the painting.

★ White is considered a color, too, and will smear like the others.

SHADE

★ Shade is dependent on the number of colors in the palette and is most effective in 256-color mode.

Shade lets you darken or lighten the colors in your picture that are in the currently selected color range. With Shade selected, you can lower or raise the value of the colors in the color range simply by dragging a brush over them. Let's try the shade feature using one of the pictures provided with DeluxePaint.

- Select **Load** from the Picture menu. From the *artwork* directory, open the Navajo.lbm file.
- Once the picture is loaded, click anywhere in the Color Indicator to bring up the Palette dialog.

Normally, you must define the range of colors you want to shade — in this exercise, a color range has already been selected for you. However, you must select one of the colors in the range as your current foreground color in order to tell DeluxePaint to shade in this range. Do that now:

- Left-click one of the colors in the color range (the third row from the left with the bar next to it). Click OK to close the Palette dialog.
- Hold down the left mouse button on the Choose Brush tool and select the smallest circular brush (the third one from the left in the top row) from the pop-up menu. Select the Freehand Brush tool (Dotted mode).
- Left-click the Magnify tool and place the box cursor over the red cloth at the woman's right elbow. Click to magnify that area.
- Choose **Shade** from the Techniques menu. We're now ready to darken the shadows in the cloth. Move the mouse over to the magnified part of the screen. Place the brush over one of the folds in the cloth. Hold down the left mouse button and move the brush to darken the fold.

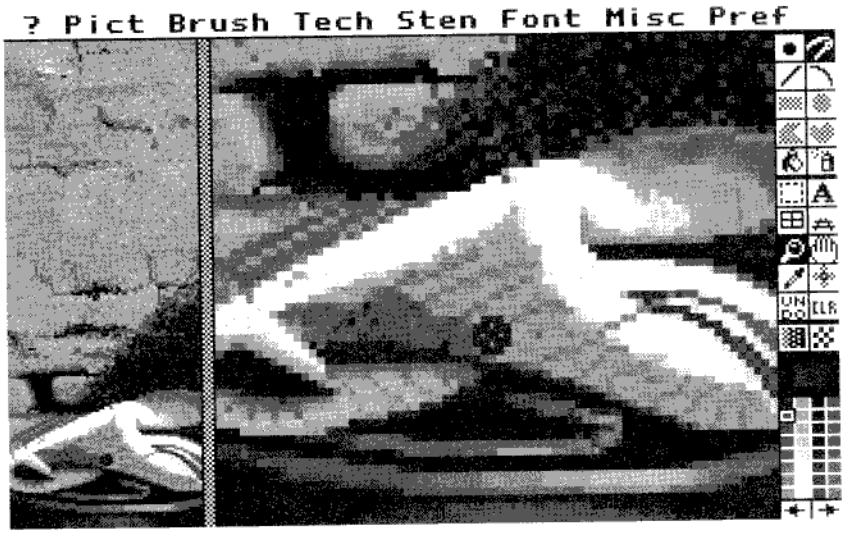


Figure 2.25 *Shading*

- Now let's lighten the red shades in the cloth. Hold down the right mouse button and move the mouse over the folds in the cloth. Notice that the red shades grow lighter as the brush passes over them.
- Turn off magnify (press `m`) to see the results.

CYCLE

When Cycle is active, your brush cycles through all the colors in the currently selected color range (gradient) *as you paint*. This lets you quickly paint a colorful series of shapes. You can also use Cycle to create simple animations. You need to be using at least a 16-color screen format to see this effect.

- Choose **Palette ▶ Default** from the Miscellaneous menu.
- Paint a rectangle and use the Brush Pickup tool to select it as your current custom brush.
- Select the Freehand Brush tool (Dotted mode).
- Hold down the left mouse button on the Gradient tool and select a gradient from the pop-up menu that appears.

- Select **Cycle** from the Techniques menu. Hold down the right mouse button and drag to paint a series of rectangles.

Notice that the colors cycle through the default range as each rectangle is painted. The colors in your range (gradient) are dependent on the screen format you're using. You'll learn how to create your own ranges in *Tutorial One* (Chapter 4).

Now let's see a very simple animation trick using **Cycle Clrs** from the Misc menu. Cycle and Cycle Clrs are two related, but distinct, features. Let's see the difference:

- Right-click the Gradient tool to bring up the Gradients dialog. Move the pointer to the scroll bar to the right of Cycling Speed. Click the right arrow until 12 appears as the new cycling speed. Click OK.
- Select **Cycle Clrs** from the Misc menu (or simply press Tab).

For a dramatic effect, try painting the same square with Color Cycling running.

In *Tutorial One*, you'll see a more impressive demonstration of what can be done using the two cycle features.

KEYBOARD EQUIVALENTS

More than ever before, keyboard equivalents and keypad commands are an integral part of DeluxePaint. The more you work with the program the more you'll find yourself using these keyboard shortcuts as convenient time savers. You'll discover and use easy-to-remember equivalents for menu options, tools, and modes.

An important feature of some keyboard equivalents is that you can use them *while the mouse button is down*! This means that you can use multiple features simultaneously. For example, you can change colors (press `[`) or the size of your brush (press `=`) while you paint; or make your custom brush paint a rectangle shape (press `r`).

When you begin working with perspective, you'll find that the keyboard commands let you do many things that otherwise would be impossible; if fact you'll make all of your angle rotations with the numbers from the Keypad.

You'll find a complete listing of keyboard equivalents in Appendix E. You'll also find a summary of the keyboard equivalents on the Reference Card provided with your DeluxePaint II Enhanced package. Have fun with them.

NOTES

This chapter introduces DeluxePaint's powerful perspective capabilities. It lets you paint in three dimensions to give your pictures a true feeling of depth. If you follow our step-by-step instructions below, you'll soon become familiar with painting in perspective. Perspective is not an easy feature to master, so don't be discouraged if you have some difficulty at first. After a while you'll get the hang of it and the fun you'll have will make your hard work more than just worthwhile. Remember, perspective is one of DeluxePaint's advanced features. Get comfortable with its basic functions before you try anything ambitious. When you're ready for a more complex challenge of your perspective skills, try Tutorial Four in Chapter 4.

THE THREE DIMENSIONAL MODEL

When you use perspective mode in DeluxePaint, you're actually working with a model that represents three dimensions using the two that are available on your screen. You can visualize this more easily if you think of your computer screen as the front side of a box.

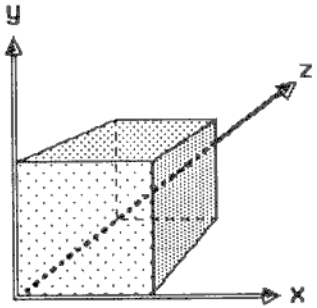


Figure 3.1 *The 3D Space and Screen Coordinate System*

Usually, when you paint with a brush in DeluxePaint, the mouse moves your brush in only two directions: horizontally and vertically. When you move and rotate your brush in perspective mode, you add a third direction to the motion: backward and forward. To move the brush into the distance or towards you, you'll move it on the Z axis of the coordinate system. We'll explain more about this later. For now, just remember that in it's default settings, the screen coordinates operate as shown in Figure 3.1; the X axis runs horizontally across the screen, the Y axis runs vertically, and the Z axis runs backward into the screen.

ROTATING A BRUSH IN 3D SPACE

The key to working in the perspective mode is rotating the brush. In this brief section, we'll show you how to rotate your brush using the numeric keypad. Before you begin, you need a brush to rotate. We'll use a picture of a dolphin.

- Choose **Load** from the Brush menu. The Load Brush dialog appears.
- Open the *artwork* subdirectory and double-click the file named dolphin.bbm to load the dolphin brush. Choose **Palette ▶ From Brush** from the Miscellaneous menu, so that your current Palette matches the palette used to create the brush.

Now that you have your brush, you're ready to enter perspective mode.

- Left-click the Perspective tool icon.

When you activate the perspective tool, your screen displays a small cross-hair to indicate the center of perspective (or line of view) and your brush is enclosed in a (so-called) wire-frame with a large cross-hair over it.

- Press F9 to activate the Info Bar. It appears at the bottom of your screen.

You'll see three zeros in the Info Bar. These indicate the current rotation angles of the brush on the X, Y, and Z axes. The numbers are all zeros because we haven't rotated the brush yet.

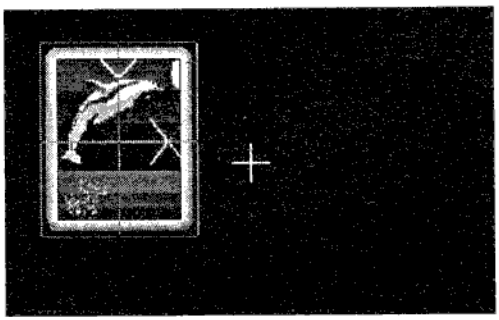


Figure 3.2 *Screen in Perspective Mode*

The cross-hair on your brush is there to help you see the brush rotations and position the brush when it changes sizes. An important feature of the cross-hair is that it indicates the X and Y axes of the brush. The Z axis of the brush runs perpendicular to the other two axes, just like the screen's Z axis. Figure 3.3 shows the Brush axis system.

Figure 3.3 *Brush cross-hair and coordinate system clearly labeled*

To rotate the brush use the numeric keypad on your keyboard. Figure 3.4 shows how each of the keys rotates the brush.

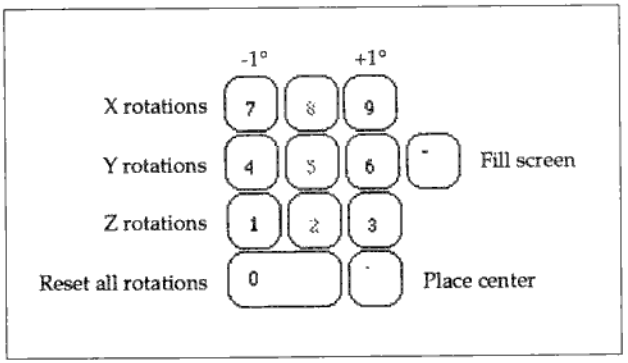


Figure 3.4 *Brush rotations mapped to the keypad*

We'll try each of the rotations in the next few steps so you get a feel for 3D rotations. We'll start off with the simplest rotation, that is, a rotation on the Z axis starting with the brush in its normal (unrotated) 0, 0, 0 orientation. This is the simplest rotation, because no part of the brush moves off the plane of your screen.

CAUTION Throughout this chapter (and whenever you're working in perspective mode) you'll use the numeric Keypad to rotate images. Sometimes you'll use the Shift key in combination with the Keypad to rotate an object a fixed number of degrees (more about this in *Angle Step*, below). To accurately follow the instructions below, Num Lock on the Keypad must be disabled. If Num Lock is active when you use either the Keypad alone or the Shift key with the Keypad, DeluxePaint can't properly make the rotations you request. So make sure Num Lock is *off* when you work in perspective.

▶ Hold down 3 on the Keypad for about 5 seconds.

The brush disappears and the frame rotates clockwise on its center (the position of the pointer). Notice that the third number in the Info Bar is no longer zero. The angle of rotation increased while you held the 3 key down; the current number shows the angle of rotation. Figure 3.5 illustrates rotation on the Z axis.

▶ Press 1 on the Keypad repeatedly until all the numbers in the Info Bar read 0 again.

When the brush is back to the 0 (X), 0 (Y), 0 (Z) position, it reappears inside the frame. This is a handy visual cue that the brush is at it's original orientation. Later, when you begin moving the brush in three-dimensional space, you'll see that the same rule applies to movement — if the brush is back on it's original plane it reappears inside the wire frame.

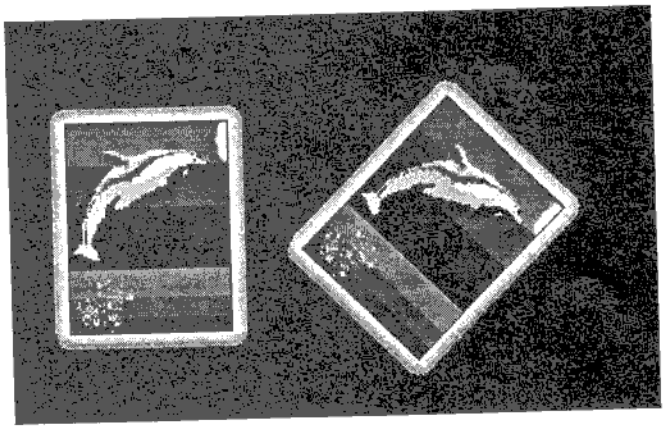


Figure 3.5 *Brush Rotation on Z Axis*

Rotating on the other axes works just like rotating on Z, but when you rotate on the other axes, the brush moves off the plane of the screen and into the third dimension. Let's see how this works by rotating on X.

- Move (*don't drag*) the brush to the lower left corner of the screen. Press the 7 key on the keypad repeatedly (each press moves the brush 1 degree). When the brush frame has rotated to about -45°, release the 7 key and click the left mouse button to paint the brush.

As you rotate the brush counter-clockwise on the X axis, it appears as though the top half of the brush is turning into the screen and the bottom half is turning outward. As a result, your painted brush is set at an angle to the screen as shown in Figure 3.6.

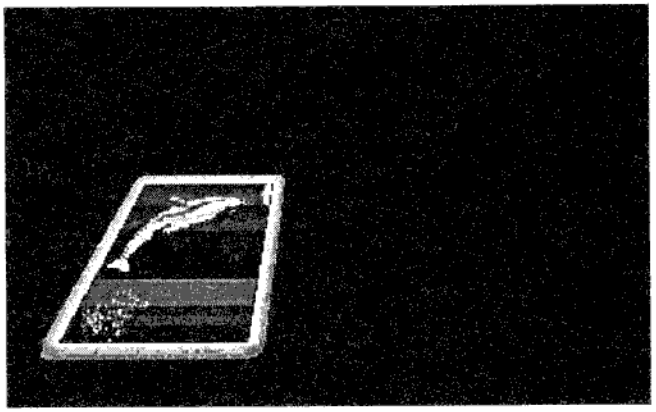


Figure 3.6 *Brush Rotation on the X Axis*

RESETTING THE BRUSH ROTATION

- To return your brush to its original orientation, press 0 on the keypad.

This last step is an important keystroke. Any time you need to reset the brush to its original orientation of 0, 0, 0, press the 0 key on the keypad. If you get lost in the world of 3D, you can always get back to the beginning with this simple keystroke.

THE ANGLE STEP

To rotate on the Y axis, you use the 4 and 6 keys on the keypad, but this time we'll use the Shift key to rotate by a larger increment.

- ▶ Move your brush to the lower right corner of the screen. Hold down the Shift key and press the 4 key on the keypad. Your brush instantly rotates -15° on the Y axis. Left-click to paint the brush.
- ★ If your brush didn't rotate -15°, remember: Num Lock *on* reverses the effect of the Shift key. See *CAUTION* above. If your Num Lock is on, any unShifted key press on the rotation keys of the keypad will rotate your brush the default angle step. Any Shifted key press will rotate your brush only 1°.
- ▶ Press 0 on the keypad to return the brush to its original orientation.

When you use the Shift key with one of the keypad keys, the brush rotates by the Angle Step. The default Angle Step is 15°, but you can change it to any angle you like in the Perspective Options dialog (see Figure 3.7).

- ▶ To display this dialog right-click the Perspective tool.

Figure 3.7 *Perspective Options dialog*

- ▶ The Angle Step edit box is highlighted. Type 90 and left-click OK to change the default Angle Step to 90 degrees.

ROTATION AROUND THE HANDLE

When you rotate a brush in the perspective mode, the rotation always occurs around the brush handle. In the preceding examples, you always held the brush from the center (the default position), so the rotations always occurred around the center of the brush. Let's look at the difference between rotation around the center and rotation around the corner of the brush.

- Click CLR to clear the screen. Position the brush near the middle of the screen. Hold down the Shift key and press the 3 key on the keypad to rotate 90° on the Z axis. Press Shift-Keypad 3 three more times to set the brush back to 0,0,0.

You've seen this rotation before, but we had you repeat it to compare this with rotation around the corner.

- Keep the brush in the same location. Choose **Brush Handle** from the Pref(erences) menu.

This moves the brush so that it is held by the lower right corner.

- Press Shift-Keypad 3 to rotate the brush around the new handle position. The cursor turns into an arrow to show you the new origin point.

Figure 3.8 illustrates the difference between rotation around the center and rotation about the corner.

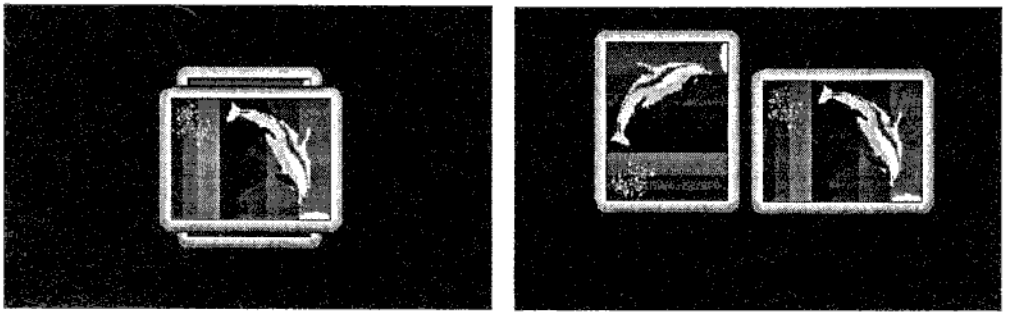


Figure 3.8 *Rotating a brush with the handle at the center and at the corner of the brush*

SCREEN VS. BRUSH COORDINATES

So far in our discussion of brush rotations, we've always rotated the brush on one of the two possible coordinate systems. If you look back to Figure 3.7, you'll see a heading labeled Rotation, with two buttons: Screen (the default setting) and Brush. We've been rotating exclusively in the Screen coordinate system rather than in the Brush coordinate system. In the next few paragraphs and steps, we'll demonstrate the difference between the two systems.

- To begin this brief example, click CLR to clear your screen. Make sure the **Brush Handle** option under the Pref menu is inactive (no x in the box). Press Keypad 0 to reset your brush to it's original orientation.

This example will be clearer if the Angle Step is set to something other than 90°. We'll use 45°.

- Right-click the Perspective tool to display the Perspective Options dialog, and type 45 in the Angle Step edit field. Click OK to close the dialog and use the new setting.

Let's do another rotation in the Screen coordinate system to get our bearings:

- Position your brush in the lower left corner of the screen. Press Shift-Keypad 3 to rotate 45° on the Z axis. Now press Shift-Keypad 7 to rotate -45° on the X axis. Click the left mouse button to paint the brush down.

Notice that when you rotated the brush on the X axis, the axis used was that of the screen. Screen axes don't change; they're absolute (see Figure 3.1 for a reminder). Even though the brush's X axis was tilted sideways by the rotation on the Z axis, the brush still rotated backward into the screen. Also notice that the rotation angles appear in the menu bar.

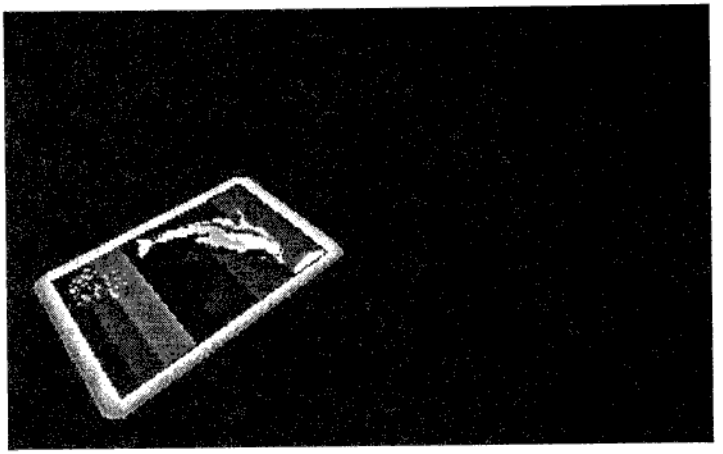


Figure 3.9 *Rotating the brush 45° on Z and X in Screen coordinates*

Now we'll change the setting to Brush angles and do the same rotation to see the difference.

- Right-click the Perspective tool to display Perspective Options. Click the button labeled Brush and click OK.
- Press Keypad 0 to reset your brush to its original orientation.
- Position the brush in the lower right corner of the screen. Press Shift-Keypad 3 to rotate 45° on the Z axis. Now press Shift-Keypad 7 to rotate -45° on the X axis. Click the left mouse button to paint the brush down.

In the Brush coordinates system, rotations always take place about the brush axes, regardless of the current orientation of the brush. In this example, the X axis was positioned diagonally after you rotated 45° on the Z axis; as a result, the brush rotated on the diagonal axis instead of rotating straight backward into the screen.

★ You'll notice that these new angles of rotation are not displayed in the Info Bar. The Info Bar only shows the rotation angles for the *Screen* coordinate system.

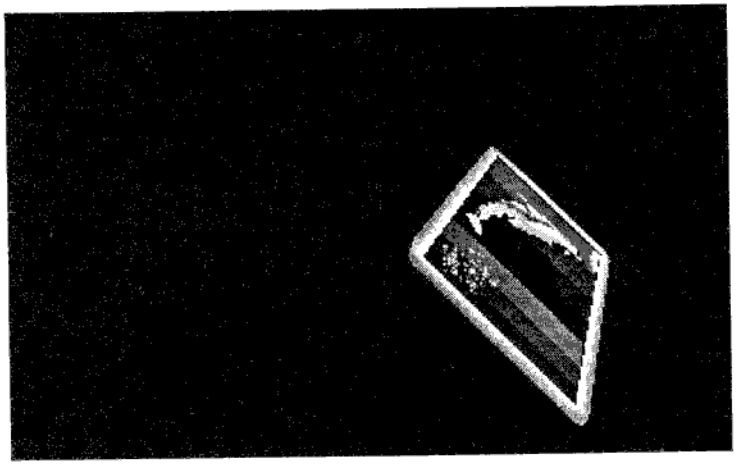


Figure 3.10 *Rotating the brush 45° on Z and X in Brush coordinates*

DeluxePaint offers both Screen and Brush coordinate systems for rotation, because each system has unique merits:

The Screen coordinates system uses the fixed orientation of the three screen coordinates to define 3D space. More importantly, the Screen coordinates system is reproducible: you can jot down the rotation numbers displayed in the Info Bar and reproduce the same brush orientation simply by rotating to the same angles. The results of multiple rotations are the same no matter in which order you rotate the brush.

The Brush coordinates system is usually easier to visualize if you are rotating at angles other than 90°. You can then usually produce the desired brush orientation without much difficulty. Unfortunately, the cumulative effect of separate rotations on the brush axes are not reproducible unless you make the exact same rotations in the exact same order.

Now that you've seen how to rotate your brush in three dimensions, the next section will show you the ins and outs of moving a brush around in all three dimensions.

MOVING IN 3D SPACE

- Clear the screen. Press Keypad 0 to reset all rotation angles to 0. In the Perspective Options dialog reset Rotation type to Screen and Angle Step to 15°. Load the brush named *Block* from the *artwork* directory. Choose **Palette ▶ From Brush** from the Misc menu. Left-click the Perspective tool to enter perspective mode.

MOVING ON THE Z AXIS

When your brush is in its original orientation (0, 0, 0), moving your mouse moves your brush along the X and Y axes. Try it right now:

- Move your mouse forward and watch how your brush moves up on the screen. Move your mouse backward and your brush moves down on the screen. Likewise, moving the mouse left or right moves the brush left or right.

Because your mouse can move in only two dimensions (the third direction would require you to lift it off the desk), it can move your brush in only two directions. You can move your brush in the third dimension by using the keyboard. One method is to move the brush straight back along the Z axis only:

- Position your brush in the lower left corner of the screen, hold down the Shift key and press the quote key (") several times.

Each time you press Shift-", the brush moves backwards along the Z axis. It appears as though the brush is getting smaller, but in fact it is moving away from the front of the screen. To move the brush forward along the Z axis:

- Hold down the Shift key and press the colon key (:) once.

The " and : keys move the brush toward and away from the cross-hair in the middle of the screen. This cross-hair defines the perspective center, which is best thought of as the point of view. No matter where you place the brush on the screen, if you move the brush using the quote key, the brush will move into the distance and toward the perspective center.

When you use the perspective mode, you'll often want to move your brush backwards and left or right along a plane. The effect is of a brush moving across the floor. DeluxePaint lets you do this with the Control key.

- Press Keypad-0 to reset your brush to its original orientation. Position the brush near the bottom of the screen, hold down the Control key and move your mouse forward and backward.

With the Control key held down, when you move the mouse forward, the brush moves toward the "front" of the screen along the Z axis. In this way, you can easily move in the X and Z axes instead of the usual X and Y axes.

LAYING DOWN THE BRUSH TO MOVE IN 3D

Another way to move into the distance is to lay the brush down and then move it on its own Y axis. Rotating the brush 90° on it's X axis makes the brush's Y axis act like the screen's Z axis. Figure 3.11 shows what happens to the different axes during perspective rotation.

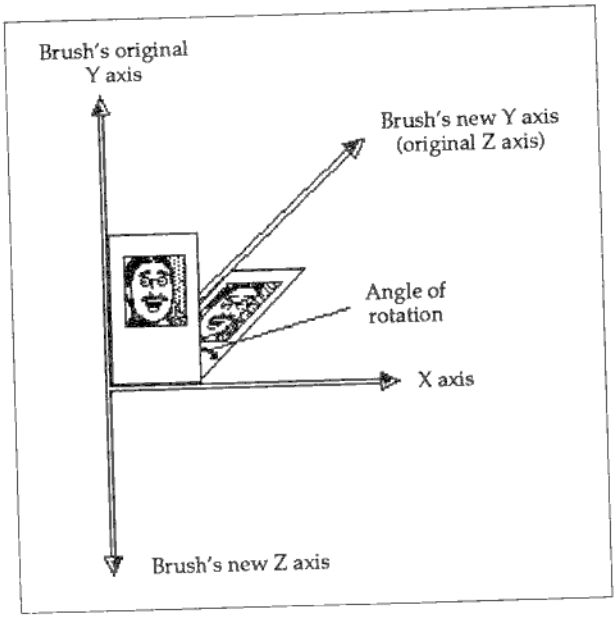


Figure 3.11 *Brush coordinate system before and after rotation*

Let's try it once to see how it works.

- Press Keypad-0 to reset the brush to its original orientation and position the brush in the lower left corner of the screen.
- Right-click the Perspective tool, and click Brush under Rotation in the Perspective Options dialog. Remember that the angles of rotation around the *brush* axes will not appear in the Info Bar.
- Press Shift Keypad-7 six times to flop the brush down into the screen (this rotates the brush 90 degrees on the X axis). Now move the mouse around.

You'll quickly discover that moving the mouse forward and backward moves the brush into the screen and back out instead of up and down. This is because the mouse moves the brush on the plane defined by the brush's X and Y coordinates.

- Move the brush to any new position and press Shift Keypad-9 six times to turn it back up on end. Paint the brush down. Use the combination of Keypad-7 and Keypad-9 several times until you are comfortable with how these keys help you move in the third dimension.

THE PERSPECTIVE PLANE

You might have noticed that when you flopped the brush down by rotating it 90 degrees on it's X axis, the brush moved on a plane below the so-called perspective center. Remember that when the brush is in its original 0, 0, 0 orientation, it moves on a plane that is roughly the equivalent of the computer screen, so the perspective center is the middle of your screen. When you rotate the brush, you change the orientation of the plane. The plane can be at almost any angle to perspective center. The easiest way to see this is to fill the perspective plane you've defined.

- Press Keypad-0 to reset your brush. Position the brush so that your cursor is at the bottom of the screen, press Shift Keypad-7 six times to rotate the brush on the X axis. Press Keypad – (minus) and watch as DeluxePaint fills the perspective plane with a pattern of your brush.

The results of this last step should look something like Figure 3.12.

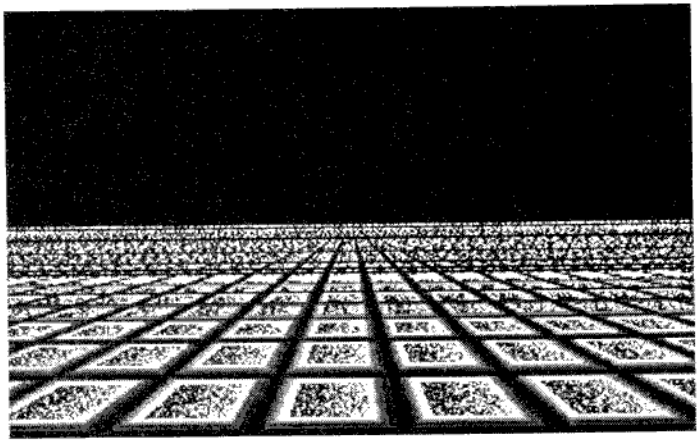


Figure 3.12 *Perspective plane painted using Fill Screen*

As we said, you can set your perspective plane at almost any angle to the perspective center. In the next step, we'll draw a plane to the right of center with the brush rotated sideways. This will create a "wall" on the right.

- Press Keypad-0 to reset your brush to it's original orientation. Place the brush in the lower right corner of the screen. Press Shift-Keypad-4 six times to turn the brush into the screen. Press Keypad – (minus) to fill the screen.

Practice creating different planes. For example, position the brush above perspective center to create a "ceiling" from your brush.

THE PERSPECTIVE HORIZON

The position of perspective center plays an important role in determining the angle of the plane to the viewer. It also determines the horizon point. The horizon point is the farthest edge of the plane when you rotate a brush to 90°. To demonstrate how this works, we'll load a brush, and fill the plane out to the horizon.

- Left-click CLR and then load *Block* brush; move the wire-frame of Block brush to the lower part of the screen, if it's not already there.
- Left-click the Perspective tool to enter perspective mode and press Shift Keypad-7 six times to rotate your brush -90°.
- Press Keypad – to fill the perspective plane.

This is the view you saw in Figure 3.12 where DeluxePaint used the default position of perspective center to create the perspective plane. As we saw above, you're not confined to this point of view. If you want to change your point of view to conform to a picture (see *Tutorial Four*, Chapter 4) or to create an interesting effect, press Keypad . (period) to move the perspective center.

- Left-click UNDO to erase your previous fill.
- Press Keypad . (your cursor changes to a large cross-hair). Position the cross-hair wherever you want it. Left-click to set the new perspective center. Press Keypad - to fill the perspective plane using your new center.

THE ANGLE OF THE PLANE

In the example above, the perspective plane matches the horizon because you rotated the brush by 90°. If you had rotated by more than 90°, the plane would not reach the horizon, as though the plane sloped downward. If you had rotated by less than 90°, the plane would extend above the horizon, as though it sloped upward, like a mountain. It's difficult to see the differences unless you have an existing horizon with which compare the plane. Without an existing horizon, the sloping of the plane will appear to be only a difference in the distance between the position of the brush and the perspective center when the brush was rotated.

When you create a perspective plane, the position and angle of the plane are determined by three things:

- the position of perspective center;
- the position of the brush handle (cursor) when you rotate the brush;
- and the degree of rotation.

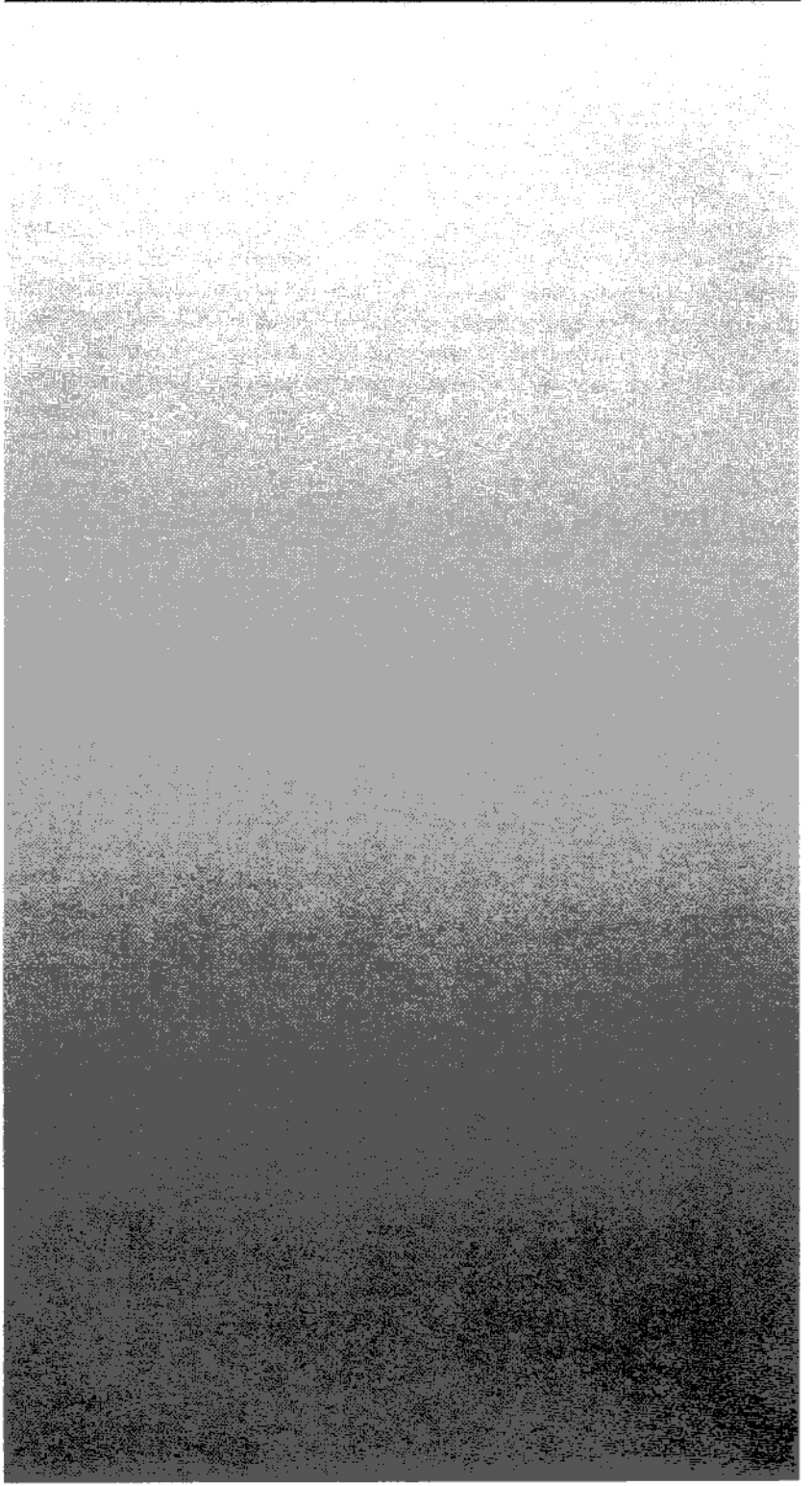
In our examples above, we rotated the brush 90° so the plane was always either parallel to our point of view or at a right angle. If you want to create a sloping surface, you do so by rotating the brush to an angle less than 90°. Here's a quick example.

- Click CLR to clear the screen.
- Position your brush so that the cursor is at the very bottom of the screen. Press Shift Keypad-7 four times key so the brush rotates -60° on the X axis.
- Move the mouse forward and backward to see how the brush moves on this new plane.

You'll notice that the vanishing point of the brush is above the perspective center in your picture; this is because the plane is not parallel to the point of view. It's as if you were looking at a gradual incline.

This chapter explained almost every aspect of using perspective in DeluxePaint. There are a couple of items we didn't cover here but did include in the tutorial on perspective in Chapter Four. If you think you'll be using perspective features, be sure to work through that tutorial. You'll learn some very important hints there.

CHAPTER FOUR: TUTORIALS



NOTES

The four tutorials in this chapter were designed to give you a sense of the range and power of DeluxePaint. Complete the exercises that interest you or go through them all. The tutorials assume that you're familiar with the basics of DeluxePaint, but they're not dependent on one another. Tutorial One shows you how to create ranges for use with Gradient Fill and Color Cycling. Tutorial Two deals with the creation of a business logo, starting with some relatively plain text and finishing with graphics impressive enough to go into an annual report. Tutorial Three demonstrates some creative ways to improve your work with Stencils. Finally, Tutorial Four shows off DeluxePaint's perspective capabilities, a way of simulating three-dimensional space on a two-dimensional screen.

TUTORIAL ONE: GRADIENT FILL AND COLOR CYCLING

In the following exercises, you'll use various gradient fills and learn how to define color ranges. You'll also produce simple animation effects using DeluxePaint's color cycling.

USING GRADIENT FILLS

DeluxePaint's Gradient Fill techniques let you fill any shape with a series of colors or shades that gradually fade from one to the next. Gradient Fill relies on color ranges, so we'll approach our tutorial as follows: First, we'll look at various types of Gradient Fill using ranges that were created by professional artists; and then we'll try defining color ranges for our own gradients.

- First, clear your screen (CLR) and press F9 to display the Info Bar. Select **Load** from the Brush menu, open the *artwork* subdirectory, and load the brush called Rangebr.
- When the brush appears, choose **Palette ▶ From Brush** from the Miscellaneous (Misc) menu to set Rangebr's customized colors as your current Palette. Position Rangebr at the bottom right corner of the screen, and left-click to lay down a copy of this custom brush.

You've now loaded a brush that illustrates Gradient Fill. You've also loaded the associated brush palette, which has a customized set of colors and predefined ranges suitable for the exercises below. To start, you'll draw some shapes to fill.

- ▶ Select black as your foreground color.
- ▶ Move the pointer to the Choose Brush tool. Press and hold down the left mouse button and select the smallest built-in brush from the top row of the pop-up menu.
- ▶ Select the Unfilled Circle from the Ellipse tool's pop-up menu. Draw six circles, three across the top and three across the bottom of the screen. (All circles should be about two inches in diameter.)

Now you'll fill these circles with various types of gradients.

- ▶ Left-click the Gradient tool to activate the gradient, which loaded with Rangebr.
- ★ If you had more than one gradient available, you could see them all by holding down the left mouse button on the Gradient tool. To choose the one you want, you would drag to it and, when it's surrounded by a black frame, release the button.
- ▶ Right-click on the Fill tool in the Toolbox. This selects the Fill tool *and* displays the Fill Type dialog.
- ▶ From the Gradients section of the dialog, select Straight in the Linear column, and then click OK.

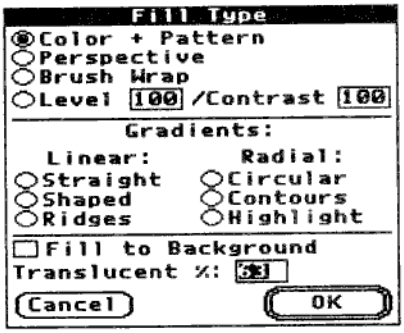


Figure 4.1 *Fill Type dialog*

- ▶ Move the cursor, which now looks like a paint can, inside the first circle (upper-left corner of the screen) and left-click. An elastic line, called the *directional line*, appears attached to your cursor. You'll use this line to tell DeluxePaint in what direction to paint your gradient.
- ▶ Move your cursor to the right edge (3 o'clock) and left-click inside the circle.

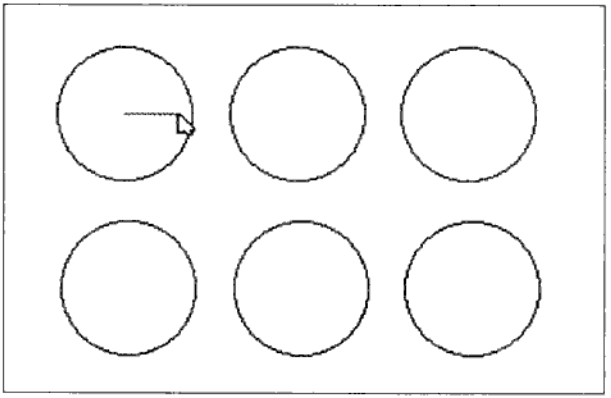


Figure 4.2 *Six unfilled circles with directional line showing 3 o'clock*

This fills the circle with a uniform gradient. If you compare the order of the colors in the Color Indicator gradient with the colors in the gradient of our first circle, you'll notice that the colors move in opposite directions. This is because of where we placed the directional line. If we wanted to duplicate the order of colors displayed in the Color Indicator, we would need to move the cursor to the left edge (9 o'clock) of the circle and click.

★ The rule governing linear gradient fills is simple. The program paints the color on the far left of the gradient in the Color Indicator according to where you place the directional line. For example, if you move the directional line to the top of your shape and click, DeluxePaint will paint the gradient from the top to the bottom.

Next we'll fill each of the remaining five circles with the other types of gradient fill.

- Bring up the Fill Type dialog again by right-clicking on the Fill tool. Select Shaped in the Linear column, and click OK. Fill the next circle exactly as you filled the previous one.

This type of fill has a more *solid* appearance than the previous one. The Shaped Linear fill takes the shape of the object into account to create a gradient fill with a more pronounced three dimensional effect. This is in contrast to the Straight Linear fill, which, as we saw, ignores the shape of the object.

- Repeat the above steps, this time choosing Ridges (the default option) from the Fill Type dialog. Ridges doesn't supply a directional line. The moment you left-click the Fill tool inside the shape, DeluxePaint fills it with the selected gradient.

  Ridges calculates the distance between the left and right borders of a figure and fills each horizontal line independently, so that each line receives the full complement of the gradient fill. (If you're using only two colors, this effect may be difficult to see.) We called it Ridges because of the way it fills irregular shapes, or shapes with breaks or holes in them. The effect produced by this fill type is often similar to ridges in a mountain range.

So far, we've seen that the Linear fills fill the object in a line, either ignoring the shape of the object (Straight) or taking it into account (Shaped and Ridges). Next we'll look at the Radial fills, which provide interesting 3D effects.

- Right-click the Fill tool, and select the Circular option from the Radial column under Gradients. Click OK. When you left-click the Fill tool in the fourth circle (second row, far left), once again move your cursor (and the directional line) to 3 o'clock. Now left-click again.

This time the gradient radiates outward, from the point where you clicked. This is the case with all the Radial fills. They only differ in the way they treat the shape of the object. Circular ignores the shape of the object, filling it with uniform circular bands, while Contours and Highlight take the shape of the object into account.

Fill the last two circles using these two fill types. Be sure to click at 3 o'clock. Now you can see why the directional line is important. The Radial fills use this information to create realistic 3D shapes and uniform lighting effects.

The difference between Contours and Highlight is a subtle one. Contours draws the entire range of colors between the point clicked and the border of the object, in a radial fashion. This fill type is ideal for creating topographical effects. Highlight optimizes the 3D effect by eliminating the last color in the range from the border of the object closest to the point clicked. This approximates the effect of a highlight on a spherical object — the border nearest the highlight will not be as dark as the border furthest away.

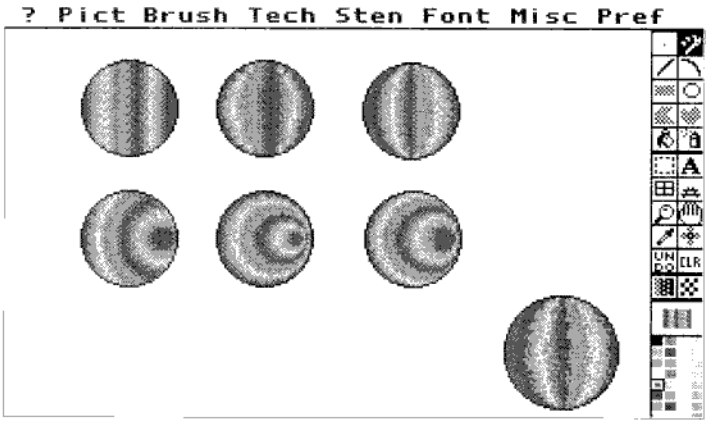


Figure 4.3 *The six different gradient fill types*

Once you've selected the gradient fill, you can also create filled shapes simply by clicking on the Filled Shape tools and drawing your shape.

The next section shows you how to set ranges.

★ If your screen format uses only 2 or 4 colors, skip the rest of *Tutorial One* and go on to *Tutorial Two*.

So far you've been using the gradient provided by the brush called Rangebr. To create your own gradient, you must first define the colors that will be in it. This is called a color range. Here's how it works:

▶ First, select **Palette** ▶ **Default** from the Miscellaneous menu, then press p to display the Palette dialog.

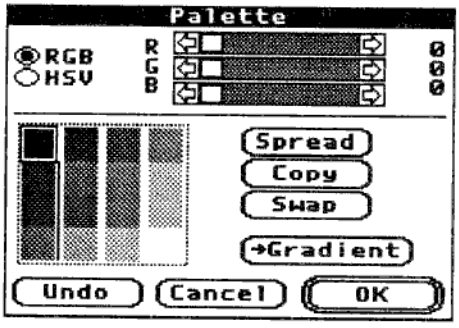


Figure 4.4 *Palette dialog*

Creating a gradient consists of two simple steps. The first step involves creating the range (or *spread*) of colors that will make up the gradient. The second step involves defining that spread as one of up to 16 possible gradients.

To create a spread between two colors, simply click a color (say, black) in the Palette dialog, click Spread, and then click a second color (say, light blue). DeluxePaint automatically calculates the spread between the two colors, and modifies the intervening colors in the range accordingly. Try creating different spreads. Click UNDO each time to go back to the default palette. As you can see, creating color ranges is as simple as clicking the two colors at each end of the range. Next we'll see how to define a range of colors as a gradient, similar to the one we used in the previous exercises.

- When you have created a range you like, click the Gradient button in the Palette dialog, or press G. This takes you to the Gradient dialog.

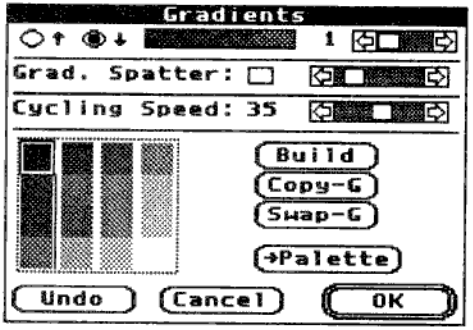


Figure 4.5 *Gradients Dialog*

From here you can define up to 16 gradients. Select a gradient number by using the slider at the upper right of the dialog. Click the right arrow to go to a higher number, and the left arrow to go to a lower number. Or you can drag the slider box left or right. For this exercise, click the right arrow once to show the number 2.

- To define your own gradient, click the first color in the range, click Build, and then click the last color in the range.

This gradient is now the number 2 gradient in your palette. You can see a representation of it at the top of the dialog. As you become more proficient with DeluxePaint, you may want to create *reference palettes* containing specially defined gradients. You can save such palettes as pictures (use **Save** from the Pict[ure] menu), and then load them as you need them. Give your reference palettes unique names so you can access them easily. See **Save** in *Reference*.

ANIMATION WITH COLOR CYCLING

★ Try this exercise only if you are using a screen format with 16 or more colors. The other screen formats don't support color cycling.

Most animation effects are created by displaying a series of drawings in rapid sequence. Animation with color cycling uses a slightly different technique. The illusion of motion is created not by changing images, but by rapidly changing the colors within a static image.

▶ Clear the screen. Use **Load** from the Pict menu, to load the file named Animated from the *artwork* subdirectory. This picture is 320 x 200 and may occupy only a part of your screen if you're working in a higher resolution.

▶ If the Info Bar is displayed, press F9 to hide it. Press F10 to hide the Menu Bar and the Toolbox. (You can bring them back later by pressing the same keys a second time.) Activate color cycling by pressing the Tab key. Pressing Tab a second time stops the animation.

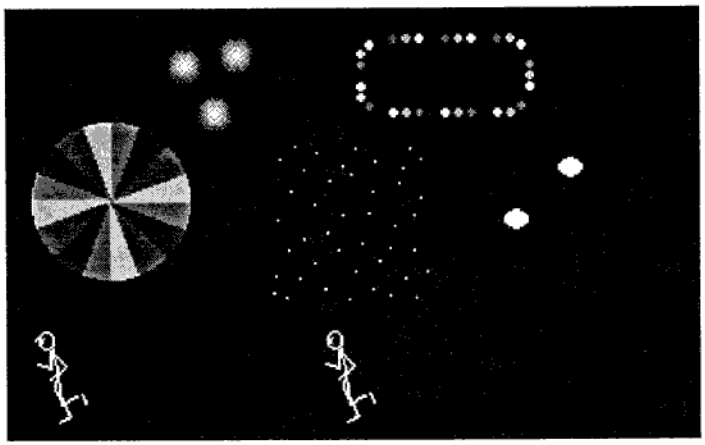


Figure 4.6 *Cycled "Animations"*

Here's how each animation works:

1. THE COLOR WHEEL: The wheel was drawn with lines radiating out from the center. The pie-shaped pieces were then filled with adjoining colors in a gradient range. Thus, as the colors in the wheel cycle, the wheel appears to spin.
2. THE STROBING LIGHTS: This was drawn much the same way as the color wheel, except that rings radiate out from the center of each small bulb.
3. THE BOUNCING BALL: Each position of the ball was drawn in a different color from Gradient 1. Because five of the six colors in this range are black, only one frame shows at a time, as the remaining five are invisible against the black background. (Display the Palette dialog and change the black colors in this range to any non-black color to see all the frames.)
4. FALLING SNOW: This was done in the same way as 3 above.
5. MARQUEE: This effect was created with the 4 colors from Gradient 2. Much like in 1 above, as the colors change, the light seems to move in a circle.
6. THE RUNNING MAN: This was done in exactly the same way as the Bouncing Ball. Notice how the frames overlap slightly.

▶ Press F10 to bring back the Toolbox. Right-click the Gradient tool to bring up the Gradients dialog, and play with the animation speed by dragging the Cycling Speed scroll box and holding down the mouse button. (To the left is slower, and to the right is faster. If the scroll box is all the way to the left, cycling is turned off for the current range.)

You can reverse the direction of the cycling by clicking the unselected Direction arrow at the upper left corner of the dialog. To move the Gradients dialog so you can see a different portion of the painting area, click with the left mouse button on the title bar at the top of the dialog and drag.

★ If you're working with a 256-color screen format, try loading the picture Celtic from the *artwork* subdirectory and press the Tab key to turn color cycling on. Be prepared for a spectacular display!

TUTORIAL TWO: LOGOS UNLIMITED

In this series of exercises, we'll take a relatively plain corporate logo and spice it up with some of DeluxePaint's powerful editing tools. We've provided the original logo so you won't need to start from scratch. All you need to do is embellish it by following the step-by-step instructions. First, however, you'll need to load the original logo, which has been saved as a brush.

- Click CLR to clear the screen.
- Choose **Palette ▶ Default** from the Miscellaneous menu.

TIP

As you work through these exercises, it's a good idea to clear the screen when you complete each one. We'll remind you to use CLR when not doing so would affect the results of the exercise.

- Choose **Load** from the Brush menu; left-click on the *artwork* subdirectory, and click Open. Select the file Archbrsh, and click Open again. (If you're using a screen format with less than 16 colors, a dialog tells you this is a 16 color brush. Click Load.)
- When the brush has loaded, select **Palette ▶ From Brush** from the Miscellaneous menu to use the same palette with which the brush was created.
- ★ Not all of the following effects are available at all times, especially under low memory conditions. See Appendix D, *Managing Memory*, for information on memory management.

Now let's see how easy it is to improve the standard logo.

ITALICIZE

Let's begin by italicizing the logo. DeluxePaint lets you tilt any image, whether text or graphics, by simply making a menu selection. Here's how:

- From the Brush menu, select **Shear ▶ Left-and-Right**. Move the brush onto the screen, and drag the mouse to the left across the screen. When you're satisfied with the slope of the letters, release the button.

As you can see, **Shear ▶ Left-and-Right** anchors the top part of any image, which allows you to stretch the bottom part horizontally in either direction. If you are doing this with text, you can italicize letters to any angle you wish by dragging to the left. Click the mouse button to place a copy of this new brush on the screen.

If you want to save the new brush (remember, it's a brush, not just an image on the screen), choose **Save** from the Brush menu, specify the drive, directory, and new file name (make sure you don't give it the same name as the original), and click Save.

BEND

This time, we'll bend the logo vertically. Although you're free to compound these effects (that is, you can bend an image that has already been italicized), let's start with the original brush again so we can see what effect bending alone has. To restore the original brush, right-click the Brush Pickup icon in the Toolbox. This restores the brush to its previous (here, it's non-italicized) state.

★ If you modify a brush more than once, you cannot restore it to its original state using this technique — you would need to load the brush again.

Now bend the brush as follows:

- From the Brush menu, choose **Bend ▶ Up-and-Down**. Move the brush to the center of the screen.
- Hold down the left mouse button and drag to *bend* the brush. The brush itself disappears temporarily and an outline shows you the shape of your bend. When you're satisfied with the way you've bent the brush, release the mouse button.
- Left-click to place an image of the new brush on the screen.

If you like, you can save the new brush on disk. Just follow the instructions outlined in the Italicize exercise above.

RESIZE

Now we'll resize the brush, stretching or shrinking it to a different size. Restore (or reload) the original brush and then follow these steps:

- ▶ From the Brush menu, select **Stretch ▶ Both** (so you can stretch it in both dimensions). As you move the brush back to the screen, you'll notice that your cursor has changed to a box with a smaller box inside.
- ▶ Hold down the left mouse button, drag the mouse diagonally—down and to the right to stretch the brush, up and to the left to shrink it.
- ★ If you try to make a brush larger than the available memory can handle, a warning will appear to tell you there was not enough memory and the brush will snap back to its starting size and shape.
- ▶ When you're satisfied with the new size, release the button.
- ★ If you want to resize the brush in proportion to the original — that is, keeping the original ratio of height to width — press the Shift key before you start dragging the mouse, and hold it down as you drag. By constraining the change in this way, you can resize the image in direct proportion to the original.

CHANGING BRUSH COLORS

- ★ You *cannot* complete this exercise in a 2-color screen format.

In this exercise we'll give the original brush a new set of colors.

- ▶ Click CLR to clear the screen and reload the original Archbrsh. Stamp it once on the page.
- ▶ Left-click a red shade from the Palette. This is your new foreground color, soon to be the new brush color.
- ▶ Select the blue shade of the brush as the new background color. To do this either right-click that blue from the Palette, or left-click the Color Pickup tool and right-click on the blue shade in the copy of the brush on screen to make it the background color.

★ Generally using Color Pickup is faster, more efficient, and more accurate. Remember, however, that you can't UNDO a choice you make with the Color Pickup tool.

Make sure that your new foreground color is red and the background color is the blue of the brush. The next step is to switch the foreground and background colors, so that every instance of the current background color (blue) in the brush will change to the current foreground color (red):

▶ From the Misc menu, select **Bg ->Fg Color ▶ Brush**.

After a moment DeluxePaint changes the blue parts of the brush to red. If you had an original brush that contained both blue and red, you could make the changes work in both directions by selecting **Bg<->Fg Color ▶ Brush**. This would change all the red parts of the brush to blue, and all the blue parts of the brush to red.

Now that you've seen how easy it is to change colors, you'll probably want to use this feature often. For the moment, however:

▶ Change the foreground color back to black, and the background color to white.

PATTERN FILL

In this exercise, you'll fill the brush image with a pattern rather than a solid color. Here's how:

▶ CLR the screen and use **Load** from the Brush menu to reload the Archbrsh. Stamp an image of the brush on the screen.

▶ Point to the Pattern tool and hold down the left mouse button to display the Pattern pop-up menu. Drag the pointer to the pattern sample at the far left of the first row in the pop-up (the diagonal stripes) and release the button.

- Left-click the Fill tool, and place the dripping paint portion of the paint can on the *dark gray* parts of the Arch graphic, and click until the arch is completely filled with the pattern (two clicks should do it).

You might now try creating your own pattern.

- Left-click the Straight Line tool and select the second smallest square brush from the Choose Brush pop-up menu.
- Draw a series of horizontal lines, equally spaced from each other. Now left-click the Brush Pickup icon and pick up some of your pattern as a brush.

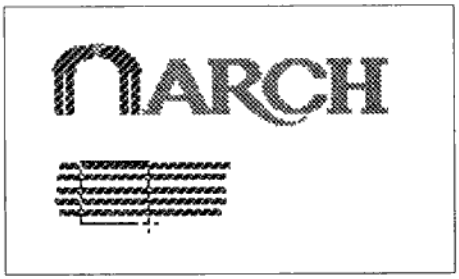


Figure 4.7 *Picking up the pattern you just created*

- Go back to the Pattern tool and choose the second pattern from the upper right (the one that looks like the Custom Brush icon). Notice that the foreground in the Color Indicator displays the pattern you just picked up.
- Use the Fill tool to fill each letter of the brush with the custom pattern.

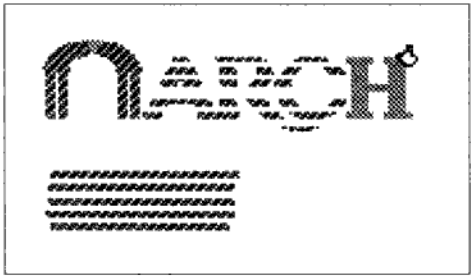


Figure 4.8 *Filling in the letters with the Custom pattern*

DROP SHADOWS

★ You cannot complete this exercise in a 2-color screen format.

In this exercise we'll give our logo a professional touch by adding a drop shadow. A drop shadow creates an illusion of depth by putting a dark shadow under an object.

- CLR the screen and load the original Archbrsh, and then click the color you want to use for the shadow (making it the foreground color). Black and brown work best as shadow colors.
- Select **Single Color** from the Techniques menu (or press F2, the keyboard equivalent).

Single Color turns a multi-colored brush into a solid color (the currently selected foreground color).

- Position the new (solid-colored) brush on the screen and stamp down an image of it there.

You've just placed a copy of the logo's shadow on the screen. Now you need to revert to the standard brush so you can place a copy of the logo over the shadow.

- Select **Paint** from the Techniques menu to restore the brush to its original form (or press F1) and Position the brush over the shadow, slightly offset from the shadow beneath it. Left-click to stamp the multi-colored brush over the single-colored shadow.

Figure 4.9 *Drop Shadow*

You have just created a logo with a drop shadow to create the illusion of a logo hovering slightly above the page. You might want to save it as part of your library of Arch logos. Remember to give it a different name before you save it; otherwise you'll lose the original brush.

OUTLINING THE LOGO

In this exercise, we'll put a different-colored outline around the logo.

- As before, begin by reloading Archbrsh and then select the color you want to use for the outline as your foreground color. Choose a color that is not already represented in the logo.
- Select **Outline** from the Brush menu (or press Shift- o).

DeluxePaint automatically embellishes your brush with a one-pixel outline in the current foreground color.

If you want to put a thicker outline around the logo, simply press Shift- o repeatedly.

AN EMBOSSED EFFECT

★ You cannot complete this exercise in a 2- or 4-color screen format. It works best with a 256-color format.

In this exercise we'll create a gradient background and use **Shade** to give our logo an embossed effect.

- ▶ Click CLR to erase the screen and right-click the Gradient tool.
- ▶ From the Gradients dialog, select Gradient 1, the 16-color white to black gradient. Click Grad. Spatter. Click OK. Left-click the Gradient tool. This gradient is your foreground *color*.
- ★ The previous step assumes a 256-color palette. If you're using a 16-color palette, you'll need to create a 16-color black and white gradient. Go to the Palette dialog and build your gradient with the Spread command. Then click the Gradient button and select Grad. Spatter from the Gradients dialog.
- ▶ Right-click the Fill tool. From the Fill Type dialog choose Straight from the Linear column and click OK.
- ▶ The Fill tool is selected; left-click on the painting area and move the mouse so the gradient direction line is pointing to the top of screen. Left-click again and your gradient fills the whole screeen. This will take a moment.
- ▶ Once more, load Archbrsh.
- ▶ Select black as your foreground color and then choose **Shade** from the Techniques menu. Your brush turns black.
- ▶ Move to the middle of the screen, which is the middle of gradient and left-click. Shade paints a version of your brush in the *lightened* foreground color.
- ▶ Move the brush one pixel left and one pixel up. This time click the right mouse button, which paints a darkened version of your brush in the *background* color (white).

The two versions of your brush make it look as though it's raised on the page and lighted from the upper left.

Figure 4.10 *Embossed Logo*

TUTORIAL THREE: USING STENCILS

Signpainters and airbrush artists use stencils (masks and friskets) to protect portions of their work while they apply paint. DeluxePaint's powerful stencil features achieve the same effects as traditional tools, only with greater ease and speed. All you do is specify the colors you wish to protect, and DeluxePaint takes care of the rest. In the following exercises, you'll learn how easy it is to use DeluxePaint's powerful stencil features.

YOU NAME IT

In this exercise, you'll learn how to use stencils to add color and texture to a nameplate.

- For this exercise, select **Load** from the Pict(ure) menu. Open the *artwork* subdirectory and load the file named Pattern3.lbm.
- Left-click the Brush Pickup tool and use the crosshair cursor to select a textured pattern you like. Try not to pick up any black edges with the pattern. Once you've picked up a pattern as a brush, select **New** from the Picture menu.
- If you've painted on Pattern3.lbm, a warning dialog appears asking if you want to save changes to the picture before you create a new one. Left-click Discard.
- Select the Filled Rectangle tool from the Toolbox. Choose black as your background color. Left-click on the Color Pickup tool and move the target cursor to the painting area. Left-click once to choose white as your foreground color. Hold down the right mouse button and paint a black rectangle approximately 1" high and 3" wide.
- Select **Choose** from the Font menu and pick a font from the dialog box (try *Tuxedo*). Click OK.
- The Text tool is automatically selected when you choose a font. Now move the text cursor to the painting area and place it in the left side of the rectangle. Type your name.

Figure 4.11 *Rectangle with name*

- Select **Make** from the Stencil menu.

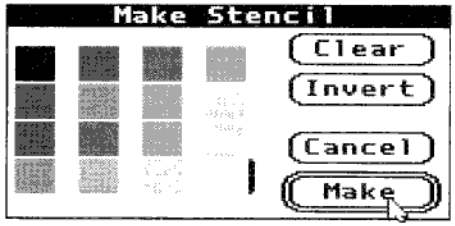


Figure 4.12 *Make Stencil Dialog*

- Move the cursor to any white part of the painting area and click. A small vertical line appears beside a white square in the dialog. Click Make.

DeluxePaint automatically turned on the mask when you selected Make — white is now masked wherever it appears on the screen. There's no danger of painting over the white letters in the box or the white surrounding the rectangle. Now we can paint over the black portions of our design using the pattern you selected as a brush.

- Right-click the Brush Pickup tool to load the last custom brush we made. Move the brush to the painting area. Notice that the brush only appears over the unmasked color (in this case, black). Now stamp down the design to give your nameplate a pattern.

Figure 4.13 *Stamp down brush on black rectangle to make a pattern*

Once you've completely covered the black rectangle with the design, you can turn off the stencil by pressing the grave (`) key. Let's take a look at one more feature before we complete this tutorial. Say you wanted to change the color of the letters in the box. You could fill each letter individually, but you can accomplish the same task in a fraction of the time using a stencil. Here's how:

- Select **Make** from the Stencil menu. White is still the currently masked color; however, we want to mask all colors except white. Click Invert. Notice that all the colors except white are now masked. Click Make in the dialog.
- Decide which color you want to paint the letters and select it as the foreground color.
- Select the Filled Rectangle tool and place the cursor in the top left corner of the patterned rectangle. Hold down the left mouse button and drag down a rectangle that completely covers the letters. Release the mouse button to color the letters.

★ Note that any colors you add *after* making a stencil are not masked, *even if that color is currently selected in the Make dialog*. For example, if you selected black in the Make dialog and then added black to an unmasked area, the stencil wouldn't protect the new black pixels. If you wanted to include the new pixels in your current stencil, you'd have to select **Make** again and create a new stencil.

You've now learned how to make stencils and turn them on and off. As you use DeluxePaint, you'll discover that stencils are very handy for painting "beneath" a design like we did in the exercises above. Stencils can also be saved and loaded so you can use them as "templates" in seperate designs. Note, however, that only the *area* defined by a stencil is saved — the colors that originally made up the stencil do not appear in the picture.

TUTORIAL FOUR: PUTTING THINGS IN PERSPECTIVE

You need a graphics card that supports 256-color display to complete this tutorial. Before you attempt it you should work through Chapter Three, *Using Perspective*. That chapter introduces you to the fundamentals of perspective in DeluxePaint. Here we'll add a perspective landscape to a picture and build a three dimensional arch as shown in Figure 4.14. In the process, you'll make a stencil (see also Tutorial Three: *Using Stencils*,) and learn some of the tricks about using perspective that are easier to understand when you see them in context.

This tutorial will take about 30 minutes to complete, so try to set aside a block of time before you begin. If you need to stop before you finish, make sure you read the note that appears just before the section *Creating an Arch*.

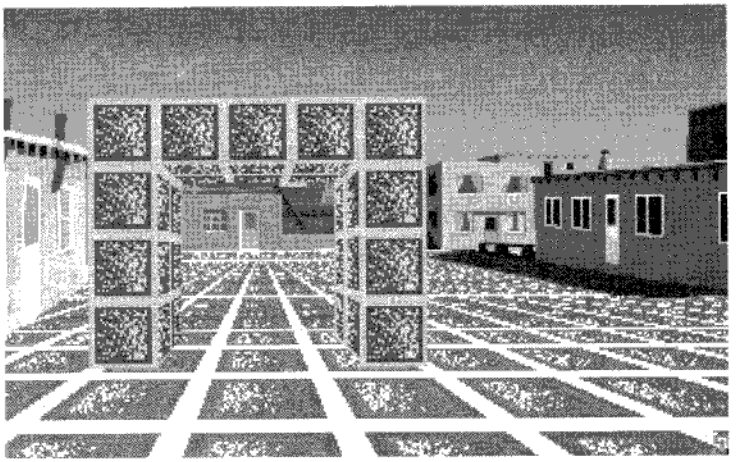


Figure 4.14 *Pueblo with Arch*

SETTING THE SCENE

The power and versality of DeluxePaint's collection of tools and features will encourage you to try for unusual and sometimes startling effects in your designs. This tutorial will help you see some of the program's possibilities.

- Choose screen format *f* (320 x 200 256 colors) from the DeluxePaint startup screen (Figure 1.1).
- Load the picture pueblo from the *artwork* subdirectory.

  We're going to lay down a perspective plane in front of the buildings in this picture.

  But before painting the plane, we need to make a stencil that will mask (protect) the colors we *don't* want to be affected by our plane (the buildings, shadows, the sky, etc.). Here's an easy way to do that.
- Choose **Make** from the Stencil menu. When the Make Stencil dialog appears, move the cursor to the black title bar, hold down the left mouse button and drag the dialog to the top of the screen, so you can see as much of the *street* as possible.
- Move the pointer to the street; hold down the left mouse button and drag through the various colors that make up the street (there are 12 street colors in this 256-mode). Each time you touch a new color with the pointer a bracket appears beside it in the Make Stencil dialog. The Make Stencil dialog should look like this:

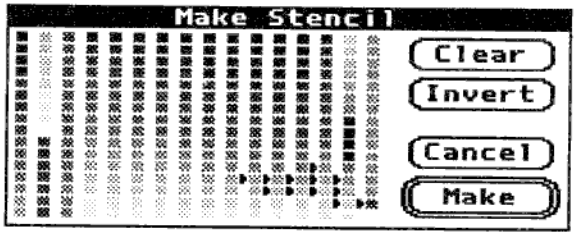


Figure 4.15 *Make Stencil dialog*

These are the colors we want our perspective plane to cover; all the other colors in the picture we want to protect.

- Click Invert. This tells DeluxePaint to mask all the colors in the Palette except those which you selected in the street.
- Click Make to make the stencil.

CREATING THE PLANE

We're ready to create a perspective plane. You don't need to build a plane every time you use perspective. We're doing it here, so you can easily see the *depth* of your picture.

- Use the Brush menu to load block.bbm from the *artwork* subdirectory.

Notice that this brush's handle is in the lower right corner. If you expect to use a brush in perspective, it's best to save it with the handle in the lower right corner for two reasons:

1. Rotations always occur around the handle, so holding the brush in the corner helps make the rotations consistent and predictable.
2. If you establish a perspective grid, you can make all of your brushes conform to that grid if their handles are in the same corner.

- Choose **Remap Clrs ▶ Brush** from the Miscellaneous menu so that the block brush uses Pueblo's Palette.
- Display the Info Bar (press F9).
- Choose **Coordinates** from the Misc menu.
- Left-click the Perspective icon to enter perspective mode.
- Right-click the Perspective icon to display the Perspective Options dialog. Type `90` to change the Angle Step to 90 degrees and then click Place Center so you can change your perpsective center, that is, your *point of view*. We need to change our perspective center here because the middle of the screen, which is the default position for perspective center, is *not* the focus point of our pueblo picture.
- Position the large cross-hair so that the vertical axis just touches the right edge of the pink door, and the horizontal axis lies just below the point where the street and the wall meet. When you've placed the cross-hair, left-click.
- Position the brush at about 150→ 186↓ and press `g`. This turns on the Grid (tool) and uses 150, 186 as one of the grid points.

TIPS

You might want to use the Shift key to constrain the motion of the brush while moving your mouse.

When you turn on **Coordinates** and take note of the cursor position *before* you rotate your brush, you can easily recreate the perspective plane whenever you wish.

▶ Press Shift-Keypad 7 to rotate the brush -90° on X.

Notice that the angles you usually see in the Info Bar are not currently visible. Turn off **Coordinates** if you want to see the angles; but you don't need them for this exercise, since all of our movements will be on 90° and based on sight, not numbers.

★ If part of your picture is hidden by the Toolbox and/or Menu bar, as is the case with pueblo, press F10 to expose the hidden sections *before* you fill your perspective plane. Press F9 to conceal the Info Bar.

▶ Press Keypad – (minus) to fill the screen with the block brush.

★ If you don't have time to complete the tutorial now, but would like to finish it later, this is a good point to stop and save your work. Press F10 so the Menu Bar reappears and select **Save As** from the Pict(ure) menu. Give your pueblo perspective a unique name in the save Picture dialog edit box and click Save. (See *Saving Your Work* in Chapter 1 if you need a reminder of how to save.) When you're ready to resume, load your version of the pueblo from the Load Picture dialog and continue the tutorial from this point, *Creating the Arch*.

CREATING THE ARCH

▶ Make sure the Info Bar and the Menu Bar are displayed (press F9 and F10). Now use the Brush menu to load red.bbm from the *artwork* subdirectory.

▶ Choose **Remap Clrs ▶ Brush** so that the red brush uses pueblo's palette.

At this point you're no longer in perspective mode, but the Grid is still on (active). If the Grid is not active, left-click the Grid tool.

▶ Left-click the Perspective icon to enter perspective mode.

Your brush is automatically laid down on the perspective plane in the orientation in which you left it (that is, rotated -90° on the X axis). This is an important point to remember, because it means that you can easily bring in new brushes at the right perspective simply by loading them with the perspective plane defined by the previous brush.

- Press g to turn off the Grid so you can move the brush freely on the plane. Press ` to turn off the stencil and then choose **Exclude Edge** from the Pref menu to eliminate the 1 pixel border around the brush.
- Press Shift Keypad-0 to reset the X axis.
- Position the brush so that the Y (vertical) axis of the brush is aligned with the perspective center and the bottom of the brush is aligned with the edge of the second full row of tiles on the floor. The coordinates will show this point as about 120→ 150↓.
- Press g to turn on the Grid and use your handle position as one of the grid points.
- Slowly move the brush two grid points to the left and stamp it down. The coordinates will show this point as (about) 75→ 150↓. *Remember, your brush will snap from grid point to grid point if you move the mouse slowly*. Paint the brush three times above the current brush position to create the face of a column.
- Paint the brush four times to the right to form the top of the arch and the top of the right column. Then paint the brush three times down to form the right column. Our arch is four "brushes" high and five "brushes" wide.

At this point you have a two dimensional arch on a three dimensional plane. Our next task is to give the arch a third dimension.

- Move the wire-frame of the brush so that it's directly on the bottom block of the left column of your arch. Press Shift-Keypad 4 to rotate the brush -90° on the Y axis. Paint the brush where it is and twice above to form the interior side of the column.
- Move the mouse a bit to the right to move the brush back along its X axis and paint another set of blocks so your column is one block wide at the face and two blocks deep as shown in Figure 4.14.
- Press Shift-Keypad 6 to rotate the brush back on its Y axis so that it is facing you head on. If the brush is not the same size as the facing

blocks of your arch, press g to turn off the Grid, hold down the Control key and move the mouse forward or backward to bring it closer or move it back.

The Control key temporarily fixes the Y axis of your brush so that you can move it on its Z axis. As you become adept at painting in perspective, you'll find yourself using this key often.

- Turn the Grid off, if you haven't already done so. You can move the brush freely on the plane. Move the wire-frame of the brush to the immediate left of the bottom block of the arch's right column. When you've made that placement, press g to turn on the Grid.
- Press Shift-Keypad 4 to rotate the brush 90° on the Y axis. Stamp the brush where it is and twice above to form the interior side of the right column. Paint another column just behind this first one so your column is one block wide at the face and two blocks deep.
- Press Shift-Keypad 6 to rotate the brush back on the Y axis. If the brush is not the same size as the facing blocks of your arch, press g to turn off the Grid, hold down the Control key and move the mouse forward or backward to bring it closer or move it back.
- Turn the Grid off, if you haven't already, so you can move the brush freely on the plane. Move the brush up so that it's over the block in the upper left corner of the arch. The coordinates will show this point as (about) 76→ 84↓. Now press g again to turn the Grid back on.
- Press Shift-Keypad 9 to rotate the brush -90° on the X axis. Move the brush to the right and stamp it once below each of the three blocks that form the top of the arch. Paint another row just behind this first row so the top of your arch is one block high and two blocks deep.

Now your arch is complete and should look just like the arch in Figure 4.14.

CHAPTER FIVE: REFERENCE

NOTES

DeluxePaint II Enhanced's Reference/Tools section contains all the information you'll need to use the product, arranged in a way that's easy to find. First, it covers all the tools in the Toolbox, explaining how to select, modify and use the tools to draw basic shapes or otherwise manipulate your image by color, size, shape or orientation.

Second, the Reference/Menus section covers all the options available from the pull-down menus. The menus are covered individually, moving left to right across the menu bar, and down through each option.

TOOLBOX

Use DeluxePaint's powerful collection of tools to make lines and shapes, create text and custom brushes, define palettes and color ranges, and otherwise manipulate your picture in interesting ways.

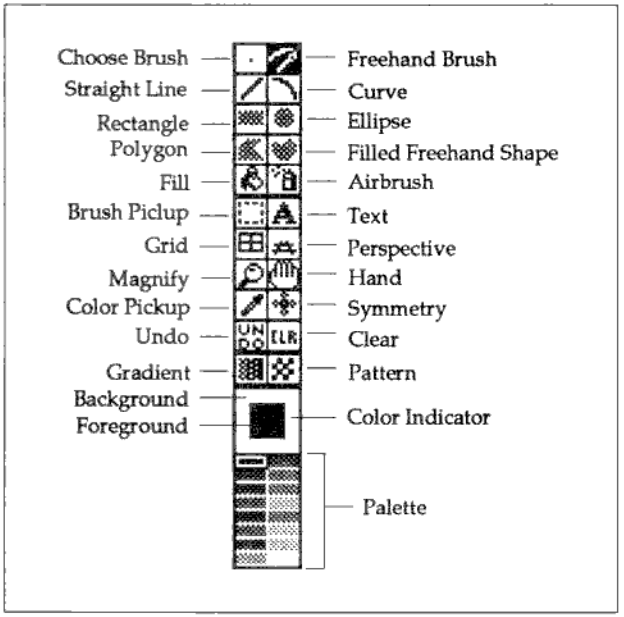


Figure 5.1 *Toolbox*

The Toolbox always appears when you start the program. You can hide the Toolbox (and the Menu Bar) to expose more of the painting area by pressing F10. To make the Toolbox reappear, press F10 a second time.

SELECTING TOOLS

Select any tool by left-clicking its icon in the Toolbox. You can also select many tools simply by pressing a designated key. For keyboard equivalents, see the tool descriptions in this chapter or Appendix E, *Keyboard Commands*.

MODIFYING TOOLS

You can use the program's pop-up menus and dialog boxes to select tools of similar type (see the Ellipse Tool, below) and to modify the way certain tools work.

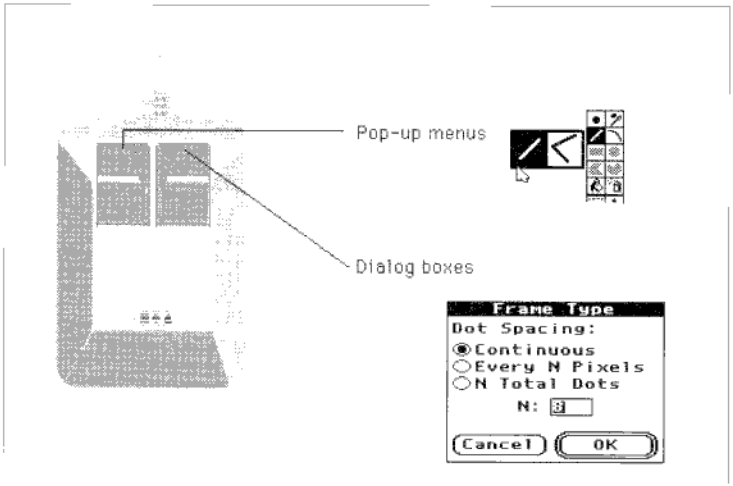


Figure 5.2 *Mouse interface in Toolbox*

POP-UP MENUS

Some tools have more than one *mode* of operation. For example, a shape tool can paint both framed or filled shapes; a brush can paint using either continuous or discontinuous lines. To change the way a *multi-mode* tool functions, hold down the left mouse button on the tool icon until a pop-up menu appears. Drag the mouse to the mode you want to use and release the mouse button. The icon in the Toolbox changes to reflect the new mode.

DIALOGS

Some tools support complex modifications through dialog boxes. Right-clicking on the Fill tool, the Grid, or any Shape tool makes a dialog appear, from which you can select options to modify the tool. Tool modifications are discussed in detail in the sections covering the tools themselves.

USING THE MOUSE WHILE PAINTING

The two buttons on your Microsoft-compatible mouse let you switch between foreground and background colors while painting. Pressing the left mouse button paints with the foreground color; pressing the right mouse button paints with the background color. Likewise, clicking a color in the palette with the left button selects it as your foreground color, while clicking it with the right button selects it as your background color. See **Palette**, below for more information about selecting colors.

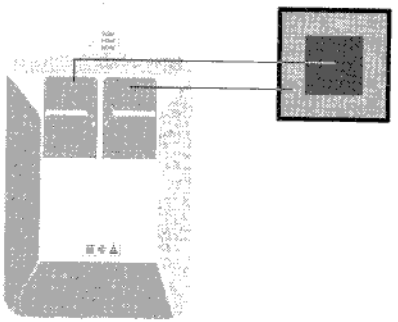


Figure 5.3 *Mouse interface while painting*

TOOLS

CHOOSE BRUSH

Pop-up menu

Point to the icon and hold down the left mouse button to choose from eighteen built-in brushes in the pop-up menu. Highlight the brush you want to paint with and release the mouse button.

You can change the size of the current brush dynamically, even while you're painting. Press the equals (=) key to increase the size of your brush. Press the minus (-) key to decrease its size. The icon in the Toolbox reflects any changes you make.

Right-clicking on the Choose Brush tool brings up the Resize cursor. When this cursor appears, move to the painting area and adjust the size of the current brush by holding down the left mouse button and dragging diagonally. Release the mouse button when your brush is the size you want. If you want to change the size again, right-click the Choose Brush icon again so the Resize cursor reappears.

★ The smallest a resized built-in brush can be is 1 x 1 pixel. The largest it can be is 100 x 100 pixels.

FREEHAND BRUSH TOOL

Lets you paint freehand with the current built-in (or custom) brush. Press the left mouse button to paint with the foreground color, or the right mouse button to paint with the background color. See also **Choose Brush** *and* **Brush Pickup**.

You can also paint with a gradient or a pattern, just by selecting a gradient or pattern from the Toolbox (see below).

Pop-up menu

Point to the icon and hold down the left mouse button to the Freehand Brush's pop-up menu. Use this pop-up to choose one of the Freehand Brush's three modes for your brush.

CONTINUOUS FREEHAND MODE
(Keyboard Equivalent: d; Mnemonic: draw)
Paints the brush in a continuous line as you drag the mouse. A large brush is less likely to keep up with rapid mouse movements, and draws a series of straight lines if you move too quickly.

DISCONTINUOUS (DOTTED) FREEHAND MODE
(Keyboard Equivalent: s; Mnemonic: sketch)
Brush stamps repeatedly as you paint. The spacing between each stamp depends on how fast you move the mouse—the faster you move the mouse, the greater the spacing between stamps.

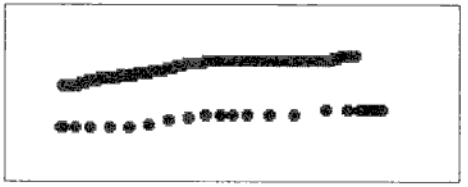


Figure 5.4 *Continuous and Dotted Freehand Brush*

SINGLE STAMP MODE
Stamps the brush down *once* every time you click.

Shift

Holding down the Shift key constrains (forces) the Freehand Brush to move either horizontally or vertically, depending on the direction you move the cursor immediately after pressing Shift.

STRAIGHT LINE TOOL
(Keyboard Equivalent: v; Mnemonic: vector)

Use the Line tool to paint straight lines in any direction. The width of the line is determined by the current built-in (or custom) brush. Position the cursor where you want the line to begin. Hold down a mouse button, and then drag in any direction to create a line. See also **Choose Brush** *and* **Brush Pickup**.

Pop-up menu Point to the icon and hold down the left mouse button to expose the Line tool's pop-up menu. Use this pop-up to choose between Single and Connected Line modes.

SINGLE LINE MODE

Lets you paint a single line. Move the mouse anywhere to create a new line.

CONNECTED LINE MODE

Lets you paint a series of connected lines. The endpoint of the previous line is always the starting point of the next line. Press the Spacebar to end the series of lines.

Holding down the Shift key constrains the tool to move horizontally or vertically, depending on the direction you move the cursor immediately after pressing Shift.

Holding down the Control key *before* pressing down the mouse button to draw causes the line to leave traces as you paint.

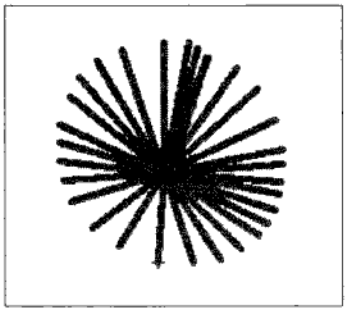


Figure 5.5 *Traces drawn with the Straight Line Tool*

Dialog

Right-click the icon to bring up the Frame Type dialog. From here you can choose to paint with continuous or dotted lines. Click OK when you've made your choice.

★ Changing the settings in the Frame Type dialog also affects curves, unfilled ellipses, rectangles, and polygons.

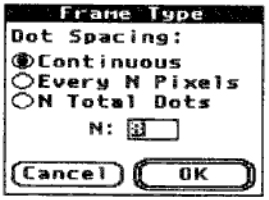


Figure 5.6 *Frame Type Dialog*

CONTINUOUS

Lets you paint unbroken lines with no space between pixels. Continuous is the default setting.

EVERY N PIXELS

Lets you paint dotted lines with a set number of pixels between each dot. You can define the number of pixels in the N: box.

N TOTAL DOTS

Lets you paint dotted lines with a set number of dots in the line. You can define the number of dots in the N: box.

N:

Lets you define the number of dots in a line or the number of pixels between dots. Delete the existing value and type in a new value. You must use a number greater than zero. If you input a value of zero, DeluxePaint uses the last-used value.

CURVE TOOL

(Keyboard Equivalent: q; Mnemonic: qurve)

Use the Curve tool to draw arcs between two points. The width of the line is determined by the current built-in (or custom) brush. See also **Choose Brush** *and* **Brush Pickup**.

- When you've selected a brush and left-clicked the Curve tool, position the cursor on the screen. Hold down the left mouse button to set the first endpoint of your curve.
- Drag the mouse to the second endpoint of your curve. Release the mouse button.

▶ Move the mouse (in any direction) to shape the line into the curve you want. Click a mouse button to set the curve.

Pop-up menu Point to the icon and hold down the left mouse button to expose the Curve's pop-up menu. Use this pop-up to choose between Single and Connected Curve modes.

SINGLE CURVE MODE
Lets you paint a single curve.

CONNECTED CURVE MODE
Lets you paint a series of connected curves. The endpoint of the previous curve is always the starting point of the next curve. Press the Spacebar to end the series of curves.

Dialog Click the icon with the right mouse button to bring up the Frame Type dialog. *See* **Straight Line Tool** for an explanation of this dialog.

RECTANGLE TOOL
(Keyboard Equivalent: `r` —Unfilled; `R` —Filled; Mnemonics: rectangle, Rectangle)

Use the Rectangle tool to paint filled or unfilled rectangles. Rectangles are drawn with the current built-in (or custom) brush. See also **Choose Brush** *and* **Brush Pickup**.

▶ Select the Rectangle tool and position the cross-hair on the work area. Hold down a mouse button, drag the rectangle to the size you want, and release the button.

Pop-up menu Point to the icon and hold down the left mouse button to see the Rectangle's pop-up menu. You can use the pop-up to choose among unfilled and filled rectangles and squares.

UNFILLED/FILLED RECTANGLES
Selecting the left icon lets you paint unfilled rectangles. The width and shape of the line is determined by the current brush. Selecting the right icon lets you paint filled rectangles.

Holding down the Shift key constrains the tool to perfect squares. You can get this same effect by selecting the filled or unfilled square from the pop-up menu.

UNFILLED/FILLED SQUARES

Selecting the left square lets you paint unfilled squares. The width and shape of the line is determined by the current brush. Selecting the right square lets you paint filled squares. If your squares don't appear perfectly square on your screen, see **Square Aspect** under the Preferences menu.

Holding down the Control key as you paint unfilled rectangles causes the line to leave traces as you paint.

Dialogs

Right-clicking on *unfilled* icons brings up the Frame Type dialog. *See* **Straight Line Tool** for a full explanation of this dialog.

Right-clicking on *filled* icons brings up the Fill Type dialog. *See* **Fill Tool** for a full explanation of this dialog.

ELLIPSE TOOL

(Keyboard Equivalent: e— Unfilled; E— Filled; Mnemonics: ellipse, Ellipse)

Use the Ellipse tool to paint filled and unfilled ellipses. Ellipses are drawn with the current built-in (or custom) brush. See also **Choose Brush** *and* **Brush Pickup**.

- ▶ Select the Ellipse tool and position the cross-hair on the work area. Hold down a mouse button, drag the ellipse to the size you want, and release the button.
- ★ Make sure the Filled/Unfilled Square icon is *not* displayed in the Toolbox before you use the Ellipse tool.

Pop-up menu

Point to the icon and hold down the left mouse button to expose the Ellipse tool's pop-up menu. Use this pop-up to choose among unfilled and filled circles, ellipses, and rotated ellipses.

UNFILLED/FILLED CIRCLES (Keyboard Equivalent: c— Unfilled; C— Filled; Mnemonics: circle, Circle)
Selecting the left icon lets you paint unfilled circles. The width and shape of the line is determined by the current brush. Selecting the right icon lets you paint filled circles.

UNFILLED/FILLED ELLIPSES
Selecting the left icon lets you paint unfilled ellipses. The width and shape of the line is determined by the current brush. Selecting the right icon lets you paint filled ellipses.

★ Make sure the Filled/Unfilled Square icon is *not* displayed in the Toolbox before you use the Ellipse tool.

UNFILLED/FILLED ROTATED ELLIPSES
Selecting the left icon lets you paint unfilled rotated ellipses. The width and shape of the line is determined by the current brush. Selecting the right icon lets you paint filled rotated ellipses. Draw the ellipse. When you're satisfied with its size and shape, press the left mouse button and move the mouse to rotate the ellipse. When it's rotated to the position you want, release the mouse button.

Holding down the Control key as you paint unfilled ellipses causes the line to leave traces as you paint.

Dialogs

Right-clicking on *unfilled* icons brings up the Frame Type dialog. *See* **Straight Line Tool** for a full explanation of this dialog.

Right-clicking on *filled* icons brings up the Fill Type dialog. *See* **Fill Tool** for a full explanation of this dialog.

POLYGON TOOL
(Keyboard Equivalent: w— Unfilled; W— Filled)

Use the Polygon tool to paint filled and unfilled polygons. Polygons are drawn with the current built-in (or custom) brush. See also **Choose Brush** *and* **Brush Pickup**.

▶ Select the Polygon tool and position the cursor in the painting area.

- Hold down a mouse button and paint the first side of the polygon. Release the mouse button. An *elastic* one-pixel line is now attached to the cursor. Drag the elastic line out to form the next side of the shape and click a mouse button.
- Repeat the previous step as many times as you need to complete the polygon. Pressing the Spacebar automatically closes off the polygon shape.

Pop-up menu Point to the icon and hold down the left mouse button to expose the tool's pop-up menu. Use the pop-up to choose between filled and unfilled polygons.

UNFILLED/FILLED POLYGONS

Selecting the left icon lets you paint unfilled polygons. The width and shape of the line is determined by the current brush. Selecting the right icon lets you paint filled polygons.

FILLED FREEHAND SHAPE TOOL

(Keyboard Equivalent: D)

This tool lets you paint filled freehand shapes. The outline of a Freehand Shape is drawn with the smallest built-in brush.

- After you've selected the tool, hold down the mouse button and draw a shape in any design. When you release the mouse button DeluxePaint automatically closes off the freehand shape and fills it with the selected color, that is, the current foreground or background color (or pattern), depending on whether you were painting with the left or right mouse button.

Dialog Right-clicking on the icon brings up the Fill Type dialog. *See* **Fill Tool** for an explanation of this dialog.

FILL TOOL

(Keyboard Equivalent: F; Mnemonic: fill)

Use the Fill tool to fill an enclosed area with the current foreground or background color, pattern, gradient, or brush. To fill an area, select the Fill tool and move the paint can cursor to the work area. Place the active point (the spout of the paint can) on the area you want to fill and left-click for a foreground fill, right-click for a background fill.

The Fill tool fills only the color under the spout when you click the mouse button, unless you have **Fill To Background** turned on (see below).

★ You cannot use the Fill tool with the two highest resolution screen formats, u and v (1024 x 768 pixels).

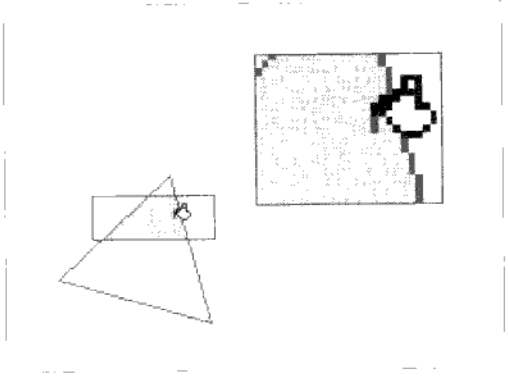


Figure 5.7 *Fill tool filling an area*

Dialog

Point to the icon and hold down the right mouse button (or press F on the keyboard) to bring up the Fill Type dialog. The Fill Type dialog lets you modify the way in which the Fill tool uses gradients, patterns, and perspective.

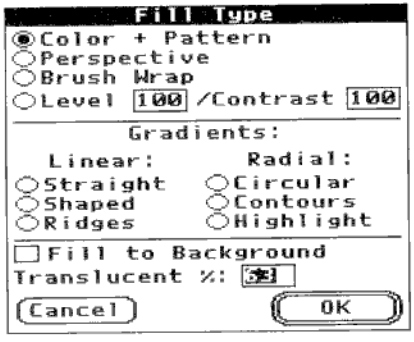


Figure 5.8 *Fill Type Dialog*

COLOR + PATTERN

Fills the area with the current color or pattern. This is the default setting.

PERSPECTIVE

After you've selected a custom brush and set the perspective plane (see Chapter 3, *Using Perspective*), click Perspective to fill the perspective plane with a repeating pattern of the current brush.

BRUSH WRAP

The Brush Wrap option fills any shape you draw with an image of the current custom brush. DeluxePaint adjusts the image to the horizontal and vertical shape of the area being filled. This gives the illusion of wrapping the brush around a solid 3D object. The effect works best if you use it to fill a shape that's very different from the shape of the custom brush. For example, with Brush Wrap selected:

- Load a custom brush (like Red from the *artwork* subdirectory).
- Left-click the Filled Freehand Shape tool and draw any image. To get the best results from Brush Wrap don't draw a square, which is the same shape as the Red brush.

When you complete the image and release the mouse, the custom brush fills the shape you drew and gives it a 3D effect. You can use Brush Wrap with any of the shape tools.

LEVEL/CONTRAST

This option lets you adjust the level (brightness) and contrast of the pixels in a defined area. Level makes all colors lighter or darker. Contrast controls the range of color values. Enter the desired values (percentage) into the edit boxes, and then define the area to be modified using any of the shape tools. You can enter any value from zero to 200 for both level and contrast. The default values are 100%. At this setting your image appears just as it was painted.

GRADIENTS

The following six options determine the method DeluxePaint uses to fill an enclosed object with a gradient, or to create a gradient-filled shape. See **Gradient Tool**, below, on how to select a gradient. See also **Color Indicator** and **Palette**, for information on creating gradients.

The six options are equally divided between the two types of gradients: Linear and Radial. A Linear gradient fills an object in one direction (in a line), and can either take the object's shape into account, or ignore it. A Radial gradient fills an object in all directions (radially) from the point where you click, until it reaches the boundaries of the object. Like Linear gradients, a Radial gradient can either take the object's shape into account, or ignore it.

Linear Gradients

The linear gradients are *Straight*, *Shaped*, and *Ridges*. When you select either Straight or Shaped and click the Fill tool, a gradient directional line stretches from the center of the object you filled to your cursor. Use this line to tell DeluxePaint what direction to fill your shape with the gradient. For example, if you move the directional line to the top of your shape and click, DeluxePaint fills your shape with the selected gradient from top to bottom, with the first color in the gradient (the one that appears at the far left in the Color Indicator) at the top of the shape.

Straight fills the object with a uniform linear gradient, ignoring the shape of the object.

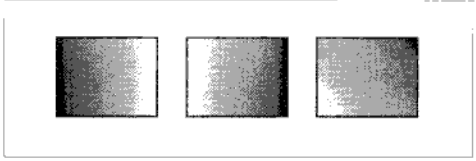


Figure 5.9 *Filling the same shape using different gradient directions*

Shaped fills the object with a linear gradient, taking the shape of the object into account, so gradient lines tend to follow the object's contours (see *Contours* below).

Ridges paints the gradient horizontally one line at a time. If there is a break or a hole in the object (see Figure 5.10), the entire gradient is drawn on both sides of the break. When filling an irregular object, this creates the effect similar to that of ridges on a mountain range. Because this is a horizontal fill, you can't specify a gradient fill direction as you can for *Straight* and *Shaped*.

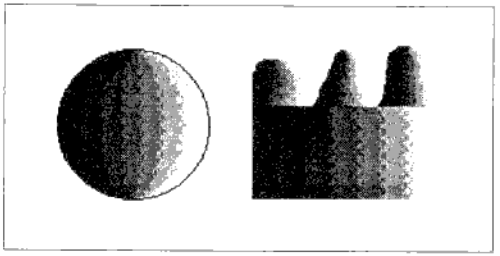


Figure 5.10 *Circle and irregular object filled using Ridges*

Radial Gradients

The radial gradients are *Circular*, *Contours*, and *Highlight*. When you select any of them and click the Fill tool, a gradient directional line stretches from the center of the object you filled to your cursor. Move your cursor, which is attached to the directional line, to the spot where you want the gradient to begin and click. DeluxePaint will fill your shape radially outward from the point where you clicked. Radial gradients are especially useful for drawing shadows and other consistent three dimensional lighting effects.

Circular fills the object radially, with a circular (shaped) gradient radiating outward from the point where you click. Like the *Straight* Linear fill, above, *Circular* does not take the shape of the object into account.

Contours fills the object radially, with the gradient taking the shape of the object into account. This creates a contour effect, reminiscent of topographical maps.

Highlight is similar to *Contours*, but optimized to create a highlight effect. Like *Contours*, the object is filled radially, with its shape taken into account. See Figure. 5.11 for a comparison between the two methods.

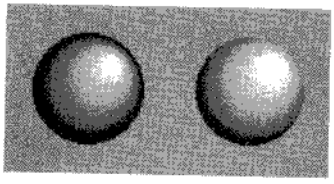


Figure 5.11 *Gradient fill, showing the difference between Contours and Highlight*

FILL TO BACKGROUND

Check this box to fill an area until it meets the currently selected background color. Use this to fill a multi-colored area or an object already filled with a gradient.

TRANSLUCENT%

Determines the degree of tinting when using **Translucent** from the Misc menu (see below). To change the default value (63%), click to the right of the last digit in the edit box, delete the existing value, and type in a new value from zero (invisible object) to 100 (opaque object). For more information, see **Translucent** under the Misc menu.

AIRBRUSH

Left-click the Airbrush icon to spray paint on your picture. The airbrush uses the size of the current brush (built-in or custom) to paint.

To adjust the size of the airbrush nozzle, right-click on the Airbrush in the Toolbox to bring up the Resize icon. When this icon appears, hold down a mouse button and drag diagonally in the painting area to adjust the size of the solid circle, which represents the spray area. Release the mouse button when the solid circle is the size you want.

★ The solid circle does not always represent the spray area's absolute size. This is the case with some of the higher resolution modes (640 x 480, for example), where the spray area is considerably larger than the solid circle. In those cases, treat the solid circle as a measure of relative size.

BRUSH PICKUP

(Keyboard Equivalents: b; Mnemonic: brush)

Use the Brush Pickup tool to create a custom brush from any image on the page. You create custom brushes by describing rectangular or freehand/polygon areas on the screen. Choose between Rectangle and Polygon/Freehand modes by holding down the left button on the Brush Pickup tool and selecting the appropriate icon from the pop-up menu.

- When Brush Pickup is the selected tool, you can toggle between Rectangle and Polygon/Freehand modes by pressing b.

RECTANGLE MODE

To pick up a brush in Rectangle mode, hold down the mouse button and drag diagonally in any direction. Surround the area you want as your brush and release the mouse button. Any instances of the current background color contained in your brush will be transparent. In addition, any colors contained in the brush that are masked through the Make Stencil dialog (see below) will be transparent.

POLYGON/FREEHAND MODE

To pick up a brush in Polygon/Freehand mode, you can either draw a series of straight lines using a series of mouse clicks (as though you were using the *Polygon Tool*, see above), or you can hold down the mouse button and draw a freehand shape around the area you want to pick up. Click (or release) the mouse button when the cursor is at your starting point, or press the Spacebar to complete the process with a straight line between the current cursor position and the starting point. Any instances of the current background color contained in your brush will be transparent. In addition, any colors contained in the brush that are masked through the Make Stencil dialog (see below) will be transparent.

If you use the left mouse button in the above steps, you'll pick up the selected area as a brush, and leave a copy behind. If you use the right mouse button, you'll pick up the selected area without leaving a copy behind.

Right-clicking the Brush Pickup icon retrieves the last custom brush.

TEXT TOOL

(Keyboard Equivalent: `t`; Mnemonic: text)

Use the Text tool to add text to your picture. The text appears in the current foreground color. You can create text using any Font, Size, and Style available in the Font menu. To enter text:

- Select the Text tool and move the text cursor to the work area. Click either mouse button to position the text cursor.
- Type to enter text. Use the Backspace key to erase text. Text does not wrap around so press Enter to begin a new line.
- Click any paint tool (or press Esc) to exit text mode.

Dialog

Point to the icon and click the right mouse button to bring up the Choose Font dialog.

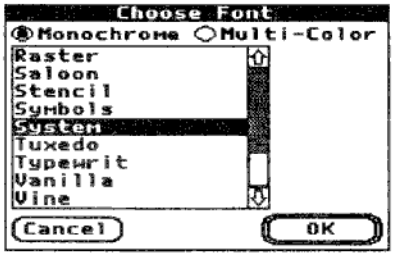


Figure 5.12 *Choose Font dialog*

Highlight the font you want to use by clicking on it. Click OK to go back to your picture with that font ready to go. Click on your picture to place the cursor there, and enter text from the keyboard. For more information on entering and editing text, see Font Menu, below.

DeluxePaint supports both multi-color fonts and monochrome fonts. To use multi-color fonts, click the Multi-Color button to bring up a selection of those fonts. Click the font you want to use, and then click OK. (DeluxePaint comes with two multi-color fonts, Wood and Chisel, already installed. You can purchase additional color fonts using the coupon enclosed in the package.)

★ Multi-color fonts are only available when you're in 256-color mode. If you choose multi-color fonts while you're in 16 color mode, you'll receive a message reminding you that multi-color fonts are for 256 color. Click OK, and the entire Choose Font dialog goes away.

DeluxePaint also supports the font outline technology from Digi-Font, Inc. Digi-Font supplies outline fonts and a font resizer, which creates bit-mapped versions of the outline font in various sizes. DeluxePaint includes a sampling of Digi-Font typefaces (Century, Italic, and Symbol, see Tables 5.4 and 5.5), together with the resizing software. You can install these by typing `century` while in the DeluxePaint directory (see Chapter 1, *Installing DeluxePaint on Your Hard Drive*). Additional fonts are available directly from Digi-Font, using the order form included in the DeluxePaint package. We've supplied a batch file called *dfi*, which you can use to install these additional fonts. Simply insert the Digi-Font disk in your floppy drive, bring up the DPAINT directory in DOS, and type `dfi` at the \DPAINT> prompt.

For more information on fonts, including a table showing the available fonts, see Font menu, below.

GRID TOOL

(Keyboard Equivalent: `g`— grid on/off; `G` — grid on, aligned with current brush location; Mnemonic: Grid)

The Grid tool constrains some of the tools so that they paint *only* on the coordinates of a grid. Left-clicking on the tool icon toggles it on and off.

The tools affected by the grid are:

Freehand Brush in Dotted mode
Straight Line
Rectangle
Circle
Ellipse
Brush Pickup
Text

Dialog Right-clicking on the Grid tool icon brings up the Grid dialog.

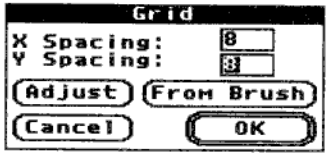


Figure 5.13 Grid Dialog

X/Y-SPACING

Grid coordinates are measured in pixels. The default setting is an 8 x 8 pixel grid. You can change the grid coordinates by deleting the existing values and typing in new ones.

ADJUST

Lets you visually place and adjust the grid. Select Adjust and position the Grid cursor on the work area. Hold down either mouse button and drag the grid to adjust the size. Note that the upper left corner of the adjustable grid is anchored as you drag the lower right corner. Release the mouse button to complete the adjustment.

FROM BRUSH

Sets the grid coordinates to the size of your brush. The brush size in pixels appears in the X/Y-Spacing edit boxes. Note that the brush size includes the transparent parts of the brush as well. For example, suppose you picked up a one inch square red brush off a black background (with black as the background color). Chances are the area you circumscribed when you picked up the brush was greater than the one inch square, and that you picked up some background color as well. Because the background color is transparent, it will not appear to be part of the brush, although it is taken into account when calculating brush size for the Grid.

PERSPECTIVE TOOL

(Keyboard Equivalent: Keypad Ins [Ø])

Use the Perspective tool to manipulate a brush in three dimensions. The tool lets you add perspective effects to the current custom brush.

- When you've loaded or picked up a custom brush, left-click the Perspective tool icon to enter perspective mode.

Your brush appears surrounded by a four-cell wire-frame, which you can manipulate with keypad commands (listed later in this section). The amount of rotation for the X, Y, and Z axes appears in the Info Bar (press F9). The center of perspective (see Center, below) is indicated by a cross-hair.

To exit perspective mode, click one of the drawing tools, such as the line tool or one of the shape tools.

Dialog

Click the icon with the right mouse button to bring up the Perspective Options dialog.

PERSPECTIVE OPTIONS

The Perspective Options dialog gives you more ways to control an image in perspective mode. To see the dialog, right-click the Perspective tool.

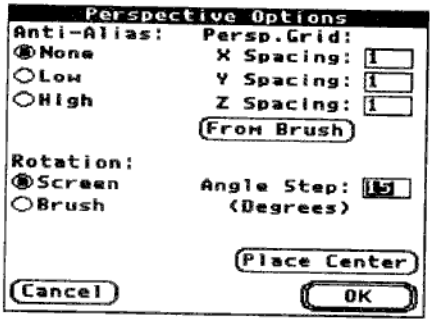


Figure 5.14 *Perspective Options Dialog*

Anti-alias

Anti-aliasing smooths the jagged lines in a brush that result from rotating or shrinking it in the perspective mode. You'll get better perspective anti-aliasing results if your palette contains intermediate shades between colors (as orange is an intermediate shade between red and yellow).

None, Low, and High

Use these buttons to set the level of anti-aliasing used on your brush when you paint in perspective mode. None is the default setting and applies no anti-aliasing. Low lets you eliminate some of the jagged

outline on your perspective brush. The cost of removing jagged lines is slower painting speed, but it's still faster than smoothing out an image by hand. To use anti-aliasing, select either Low or High *before* you lay down the brush image. Anti-aliasing is most effective when you have reduced the size of your original brush (for example, by moving it back along the Z-axis). Anti-aliasing in the High setting can be very slow if your brush or fill area is large.

Persp(ective) Grid
You can set the dimensions for a grid in three-dimensional space. When you turn Grid on while in perspective mode, the grid is a three-dimensional one, as your brush moves along the defined plane. When you first open the dialog, the numbers in the edit boxes correspond to the dimensions of your brush. The Z dimension automatically takes the same value as the Y dimension.

★ The entire brush size (even transparent areas) is the default size for Persp.(ective) Grid and Perspective Fill. To change the grid settings, highlight the value in the box by dragging the cursor over it, and then type in the new value.

From Brush
Clicking this button sets the X and Y grid values to correspond to the width and height of the brush. This is the quickest way to restore the perspective grid settings to the same dimensions as your brush without affecting any other settings.

Rotation
DeluxePaint uses two coordinate systems for rotating an image: Screen coordinates and Brush coordinates.

Screen, the default mode, uses the screen's axes when rotating the brush on the X, Y, and Z axes. This system measures all three angles of rotation from absolute zero and displays them in the Info Bar (as long as **Coordinates** is *not* selected from the Misc menu).

The Brush coordinates system rotates angles relative to the current brush rotation. These angles of rotation cannot be displayed on the Info Bar.

Angle Step
Specifies the rotation increment in degrees, which DeluxePaint uses when you press the Shift key together with a keypad rotation key (see *Perspective Rotations*). The default angle step is 15°.

Place Center
Use Place Center to give your picture a new perspective center or focal point. Click Place Center to return to the painting screen. Your cursor turns into a large cross-hair. When the cross-hair is positioned where you want to place your new center, left-click, and the small perspective cross-hair will move to your new perspective center.

PERSPECTIVE ROTATIONS
All perspective rotations are controlled through the keypad on your keyboard. Use the keypad keys to rotate the brush in one-degree increments in accordance with the following table:

	-1°	**+1°**	**Reset**
X rotations	7	9	0
Y rotations	4	6	0
Z rotations	1	3	0
Reset all rotations	0		
Place Center	.		
Fill Screen	-		

Table 5.1 *Perspective rotation and setting using the keypad*

Use the keypad keys in conjunction with the Shift key to rotate the brush in Angle Step increments (as determined by the Angle Step settings in the Perspective Options dialog, see above).

	-Angle Step°	+Angle Step°
X rotations	7	9
Y rotations	4	6
Z rotations	1	3
Reset all settings	0	
Place Center	.	
Fill Screen	-	

Table 5.2 *Pesrspective rotation and settings using Shift with the keypad*

PERSPECTIVE COMMANDS

Fill Screen: Keypad Minus

Fills the screen with the current brush, in its current state of rotation in 3D. The entire brush size (not just the opaque part) is the default size for the Perspective Fill pattern.

Reset: Keypad 0

Resets the brush to its original state before rotation. Pressing Keypad 0 resets all three axes to zero and fixes the Z-axis (see below), but retains the apparent distance settings. Shift- Keypad 0 resets all perspective values to the default state.

Center: Keypad . Period

Allows you to set the perspective center or horizon in your perspective *landscape.*

★ When you select Center, your cursor changes into a large cross-hair. The smaller, stationary cross-hair on the screen indicates the existing center. Move the large cross-hair to the position you want to make the new center and click either mouse button.

Once you have set the perspective center, the position of the unrotated brush relative to that center determines the position of the perspective plane when you rotate the brush. The greater the distance above or below perspective center, the less pronounced the perspective effect.

Your Control key temporarily fixes the Y axis so that you can move the brush forward or backward in 3D space by moving the mouse forward or backward.

The ; and ' keys move the brush plane forward or back along its fixed axis (see below) without changing its orientation, moving it in a direction perpendicular to the brush plane. This is the same effect described in the above discussion on brush position prior to rotation. When the Z-axis is fixed, the brush's distance above or below "eye level" is determined by the brush's position (relative to the perspective center) at the moment you rotate it. You can achieve the same effect after the brush is rotated by using the ; and ' keys to move it forward or back along its Z-axis. Pressing these keys with the Shift key held down results in larger increments of movement.

In addition, you can modify the apparent distance from the observer by pressing the < and > keys; those are the Shifted comma (,) and period(.) keys. Thus, when the apparent distance is great, the perspective foreshortening is at a minimum, becoming greater as apparent distance decreases.

FIXING AXES

Whenever you start in perspective mode, the Z-axis (the one perpendicular to the screen) is fixed, that is, the mouse does not move the brush through that axis.

You can temporarily fix the Y axis by holding down the Control key.

MAGNIFY TOOL

(Keyboard Equivalent: m; Mnemonic: magnify)

Use m to toggle between the currently selected magnification and unmagnified. You can also use the number keys at the top of the keyboard to automatically magnify your picture xN, for example press 3 to magnify your picture three times its original size.

The Magnify tool divides the screen into two parts (windows) and displays the right window at the selected magnification. Select the Magnify tool and position the box cursor over the part of the painting area you want to magnify. Click either mouse button.

★ To adjust the size of the windows, drag the gray dividing line to one side or the other. You cannot drag the line to the left, enlarging the magnified view, if doing so would obscure the magnified selection in the unmagnified part of the screen. DeluxePaint's painting model requires any magnified pixel to appear also in unmagnified form, to save RAM.

The Magnify tool is especially useful for detailed work. You can use any other tool on either side of the screen in Magnify mode.

Pop-up menu Point to the icon and hold down the left mouse button to change the magnification power. Pressing the equivalent number key at the top of the keyboard will automatically magnify your picture the corresponding number of times, centering the magnified image at the current cursor position. For example, pressing 6 magnifies your picture six times.

HAND TOOL

If your painting is bigger than the screen, use the Hand tool to move parts of the painting into view. Select the tool icon and move the Hand cursor to the work area. Press a mouse button and drag the picture. The picture will move to the new position as soon as you release the button.

The Hand tool is most useful when used in combination with the Magnify tool, since only a small part of the document is visible in the Magnify mode.

Right-click the Hand tool to show the entire page on the screen. If your page is larger than the screen, this displays the entire picture in a reduced form. If the current document is the size of the screen, right-clicking the Hand tool hides the menus. This is the same as selecting **View Page** from the Pict menu (see below).

You can't work on the document in this mode — only view it. Press any key or click a mouse button to return to the painting area of the picture you were working on when you first clicked.

COLOR PICKUP TOOL
(Keyboard Equivalent: , [comma])

Use the Color Pickup tool to select a color from the work area.

- Select the tool and move the Color Pickup cursor to the painting area. Left-click on a color to select it as the foreground color. Right-click on a color to select it as the background color.

SYMMETRY TOOL
(Keyboard Equivalent: /)

Modifies your tools to create symmetrical shapes and patterns. Symmetry works with all tools except the Text tool and the Brush Pickup. To paint in Symmetry mode simply select the Symmetry tool and paint.

Dialog

Click the Symmetry icon with the right button to bring up the Symmetry Options dialog.

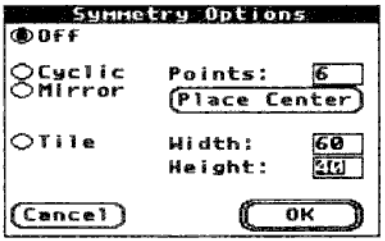


Figure 5.15 *Symmetry Options Dialog*

This dialog lets you place the center of your symmetrical design, choose the number of brush points, and choose a symmetry mode.

OFF

Turns off all symmetry options. Clicking the Off button turns the button black, to show that it's active, and automatically turns off Symmetry mode.

POINTS

Enter the number of brush points (up to 40). You only need to define the number of points when painting in Cyclic or Mirror modes.

CYCLIC

Before you choose Cyclic, select the number of brush points you want to use. As you paint, the brush points maintain an equal distance from each other and follow the example of the lead point (the one with the crosshair on it).

MIRROR

Before you choose Mirror, select the number of brush points you want to use. As in Cyclic, the brush points maintain an equal distance from each other and follow the example of the lead point (the one with the crosshair on it). However, each point has a duplicate point that *mirrors* its action. If you rotate the points clockwise, the mirror points rotate counter-clockwise.

TILE

Always clear the screen before painting in Tile mode. Tile creates multiple copies of your pattern across the screen as you paint. Set the size of the tiles by entering their height and width (in pixels). Because the Tile lets you create an entire pattern just by drawing one of its elements, it is an ideal tool for textile designers.

PLACE CENTER

Lets you place the center of the symmetrical pattern you're about to paint. The default *center* is the center of your screen. When you click on Place Center, the Symmetrical Options dialog disappears. Move the crosshair to any part of the picture and click to place the new center.

WIDTH/HEIGHT

Specifies the height and width (in pixels) of individual tiles when you're painting in Tile mode. Press Tab to highlight one of the boxes and enter the new size.

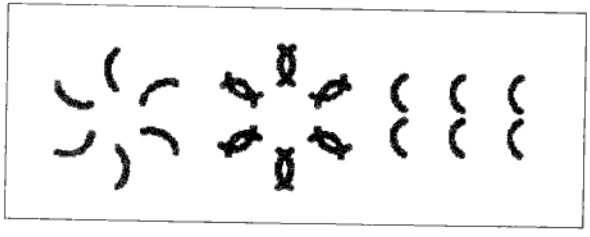


Figure 5.16 *Cyclic, Mirror, and Tile modes*

UNDO
(Keyboard Equivalent: u; Mnemonic: undo)

Undoes the latest painting action (including UNDO) as long as there have been no intervening mouse clicks.

CLR
(Keyboard Equivalent: K; Mnemonic: Klear)

Clears (erases) the screen to the current background color.

GRADIENT TOOL

Some tools can apply a range of colors (called a gradient) as well as a single color. The Gradient tool lets you select a previously created gradient as your foreground color. You can use gradients with the Fill and filled shape tools, the Text tool, and the Freehand Brush.

Pop-up menu Point to the icon and hold down the left mouse button to select a previously created gradient. Move the cursor to the desired gradient and release the mouse button. The window disappears and the selected Gradient is shown as the foreground color.

The Gradient Tool pop-up displays up to 8 gradients, depending on your screen format and the number of gradients you've defined. DeluxePaint supplies one gradient as a default.

Dialog Point to the icon and hold down the right mouse button to bring up the Gradients dialog. The Gradients dialog lets you define up to 16 gradients by specifying the beginning and end points of a range of colors.

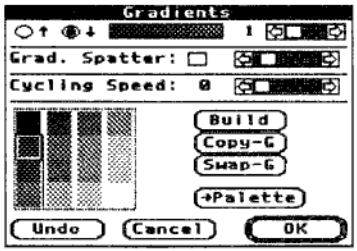


Figure 5.17 *Gradients Dialog*

GRADIENT BAR

The Gradient Bar in the upper part of the dialog provides you with feedback as to the gradient's current status. As you define, switch or modify gradients using the steps outlined below, the Gradient Bar changes accordingly.

The Directional Arrows to the left of the Gradient Bar let you change the direction of the gradient. Click the appropriate radio button to change direction. This will also change the direction in which colors cycle in your picture (if you use the Cycling option).

The slider to the right of the Gradient Bar lets you move between gradients. You do this by clicking the left or right arrows at either end of the slider, or by dragging the box left or right. As you do so the number to the left of the slider changes to reflect the current gradient number. Up to 16 gradients may be defined.

To define a new gradient, you first need to move to the first available free slot (unless you want to overwrite an existing gradient), and then follow the steps outlined below (*Building, Copying, and Swapping Gradients*).

GRADIENT SPATTER

The Gradient Spatter check box lets you choose between dithering using patterns (the default) and non-pattern dithering (or spatter). Dithering reduces the contrast between adjacent colors (without changing the colors themselves), by introducing some randomness into the boundary area. Pattern dithering uses patterns of varying densities to create the effect of a smooth transition. With Gradient Spatter turned on (by checking the checkbox), you can adjust the degree of randomness in the border between the two colors by clicking the left and right arrows of the slider.

CYCLING SPEED

You can use the information contained in gradients to create animation effects using color cycling. Each of the 16 gradients contains an additional element of information called Cycling Speed. This is the speed at which the colors in the gradient will cycle when cycling is turned on. (Turn cycling on by selecting Cycle Clrs from the Miscellaneous menu, or by pressing Tab.) Adjust cycling speed by clicking the left and right arrows of the slider or by dragging the box left or right. Note that each gradient can have its own rate of cycling. And, if you change the direction of the gradient, you will also change the direction in which colors cycle. You can turn cycling off for a particular gradient by setting the rate to zero (slider all the way to the left). For a dramatic example of color cycling, load the Celtic picture from the *artwork* subdirectory, and press the Tab key.

BUILDING, COPYING, AND SWAPPING GRADIENTS

(Keyboard Equivalents, only when you're in the Gradients dialog:
B = Build; C = Copy; S = Swap; P = Palette)

The lower part of the Gradients dialog provides access to the more fundamental aspects of gradients, such as defining, copying or swapping gradients. To define (or build) a gradient, click the first color of the projected gradient, click Build, and then click the last color. A vertical line will appear to the right of the range of colors, indicating that the range has been defined as a gradient.

The Copy-G and Swap-G buttons let you copy or swap gradients to or with other parts of the palette. For example, to copy a gradient, move the slider to the gradient you want to copy (and note the black vertical line to its right), click Copy-G, and then click a color in the palette. The gradient will be copied to the new location, starting with the color you clicked. Swap-G does a similar thing. The gradient changes and the new range of colors (the new gradient) and the old gradient exchange positions on the palette. Note that Copy-G and Swap-G actually modify the palette by rearranging the order of colors there.

Clicking the Palette button brings up the Palette dialog. This allows you to make modifications to individual colors in the palette. The palette dialog is discussed in greater detail in the Color Indicator section, below.

★ Build, Swap, and Copy are not available in CGA formats.

PATTERN TOOL

DeluxePaint lets you paint with patterns as well as solid colors. A pattern uses both the foreground and background colors, and is a way of creating a greater number of apparent colors in your palette. Select patterns through the Pattern Tool.

Pop-up menu

Point to the icon and hold down the left mouse button to display the pattern pop-up window. Select a pattern by dragging the cursor to the desired pattern and releasing the button. The window disappears and the chosen Pattern is shown in the foreground color box. Selecting a new foreground or background color does not change the pattern. This way you can create subtle shades by selecting new foreground and background colors.

Use any of the following tools to paint with the selected pattern:

Freehand Brush in Continuous mode
Straight Line
Curve
Rectangle
Circle
Ellipse
Polygon
Fill

Note the following special patterns:

SOLID COLOR
Select this to return to painting with solid colors.

MULTI-COLOR CUSTOM BRUSH PATTERN
Makes a pattern of your last custom brush. The custom brush retains its original shape and colors.

SINGLE COLOR CUSTOM BRUSH PATTERN
Makes a pattern of the last custom brush, but only the original shape is retained. The color of the pattern is the current foreground color.

If you select Video Patterns from the Preferences menu, the bottom two rows of patterns are made optimal for video applications, by reducing flicker on NTSC monitors. If you select Halftones from the Preferences menu, the bottom two rows of patterns are made optimal for laser printing applications.

COLOR INDICATOR

The Color Indicator indicates the current foreground and background colors.

Figure 5.18 *Color Indicator and Palette*

Dialog

Clicking anywhere in the Color Indicator brings up the Palette dialog. Use this dialog to modify the colors in your palette and create color ranges and gradients.

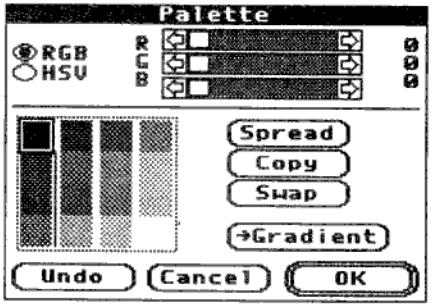


Figure 5.19 *Palette Dialog*

★ Figure 5.19 shows the Palette dialog for VGA (640x480, 16 colors) format. Because other screen formats can display greater or lesser numbers of colors (for example, CGA displays four colors, while MCGA and E-VGA can display up to 256), the Palette dialog for those formats will look slightly different. Note also that not all of the following features are available in every screen format. For example, CGA and EGA 320x200 have a much smaller universe of colors from which to draw, so that gradients may not always turn out smoothly. Regardless of screen format, however, the principles of color manipulation and modification remain the same.

The title bar of the dialog shows the currently foreground color. You can drag the dialog around the screen by the title bar, and so position it on your image for direct comparison with other colors in the picture.

Below the title bar are the RGB and HSV sliders. By clicking the left and right arrows of the sliders (or by dragging the box left or right), you can modify the individual colors in the palette. Click the RGB button to modify the currently selected color by varying the proportions of Red, Green, and Blue.

The HSV method of mixing colors is an alternative approach to RGB mixing; it yields identical results. HSV breaks each color down into its Hue, Saturation, and Value.

- Hue refers to the color's position on the color spectrum. As you move the box along the Hue slider (starting from the left), your current color changes to a shade of the following colors — Red, Orange, Yellow, Green, Blue, Purple, and Red.
- Saturation refers to the strength of the particular hue and the extent to which the strength is "diluted" by some proportion of white. Thus, when your current color has a Saturation setting of zero (and the box is at the left of the Saturation slider), your color is white.
- Value refers to the amount of light a color reflects off a surface (and therefore, the absence or presence of black). A color with a high Value setting has little or no black, whereas colors with low Value settings contain more black. No matter what settings you've entered for Hue and Saturation, a Value setting of zero produces pure black.

Both the RGB and HSV sliders use a 100-point scale in the dialog, even though the maximum number of gradations on the RGB scale is 64. Table 5.3 shows the RGB values on a 64-point scale:

100 Pt	64 Pt	100 Pt	64 Pt	100 Pt	64 Pt	100 Pt	64 Pt
0	0	27	16	52	32	77	47
3	1	28	17	53	33	78	49
5	2	30	18	55	34	80	50
6	3	31	19	56	35	81	51
8	4	33	20	58	36	83	52
9	5	34	21	59	37	84	53
11	6	36	22	61	38	86	54
13	7	38	23	63	39	88	55
14	8	39	24	64	40	89	56
16	9	41	25	66	41	91	57
17	10	42	26	67	42	92	58
19	11	44	27	69	43	94	59
20	12	45	28	70	44	95	60
22	13	47	29	72	45	97	61
23	14	48	30	73	46	98	62
25	15	50	31	75	47	100	63

Table 5.3 *RGB Values shown in 64 point scale*

The lower part of the Palette dialog shows the colors in the palette, together with seven buttons. These buttons have the following functions:

SPREAD (Keyboard Equivalent: `r`)
Use this button to create a gradient or spread between two colors. For example, to create a gradient or spread going from dark blue to white, click the dark blue cell (the dark blue rectangle in the color Palette), click Spread, then click the white cell. The gradient between the two end shades is calculated automatically.

COPY (Keyboard Equivalent: `c`)
Use this button to copy a color to another position in the palette. To copy a color, click the color, click Copy, and then click the cell to which you want to copy the color.

SWAP (Keyboard Equivalent: s)
Use this button to swap the positions of two colors in the palette. Click the first color, click Swap, then click the second color. The two colors will switch places in the palette.

—> GRADIENT (Keyboard Equivalent: g)
Use this button to bring up the Gradients dialog. It lets you define up to 16 gradients based on colors in the palette. Clicking -> Gradient is like clicking OK (see below), so you can't UNDO any changes you may have made until the next time you display the Palette dialog.

UNDO (Keyboard Equivalent: u)
Use this button to undo the last change you made in the palette.

CANCEL
Click Cancel to put the Palette dialog away without putting any of your changes into effect.

OK
Click OK to put the Palette dialog away and accept the changes you made.

CURRENT PALETTE

Left-click a color in the palette to select it as your foreground color. Right-click a color to select it as your background color. You can also scroll through and select a foreground color from the keyboard by using the [or] (bracket) keys. Use Shift-[and Shift-] to scroll through and select a background color. This means that you can change colors dynamically, while you paint (with the mouse button pressed down). In the 256-color modes, you can use the open and close parentheses keys (Shift-9 and Shift-0) to move through the palette 8 colors at a time.

★ You can use the left and right pointing arrows below the Palette to scroll through the Palette. Each click on the arrow moves the palette 8 colors at a time. If you're using a 256-color palette, this can be helpful.

In the EGA, VGA, MCGA and E-VGA modes, holding down the left mouse button while pointing at a color in the palette causes a pop-up window to appear, similar to those for the other tools (see above).

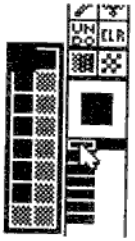


Fig. 5.20 *Palette Pop-up Window*

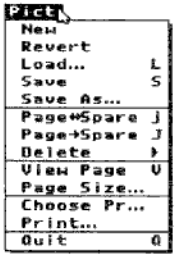
In the 16-color modes (EGA and VGA), the pop-up presents what appears to be additional shades. These shades are actually made up of pairs of colors, arranged in a checkerboard pattern. Because of the high display resolution used by these modes (usually 640x480, or 640x350), the pairs of colors merge to create an apparent third shade. You can choose one of these shades by dragging the pointer to the color and releasing the button. This shade is now available for painting, in the same way you would use any of the other colors available from the palette.

MENUS

QUESTION MARK (?) MENU

The Question Mark menu gives you copyright information about DeluxePaint II Enhanced, the version number of the program and the names of the designers.

PICTURE MENU



The Picture (or Pict) menu lets you load and delete pictures, save work in progress, and print your artwork. From here you choose printers, set the page size of your document, view the spare page, and quit DeluxePaint to return to DOS.

NEW

Creates a new document. You can only have one document open at a time, so DeluxePaint automatically closes your current document (and Spare Page, if one exists) when you choose New. If you've made changes to the current document, a standard Save Changes dialog appears:

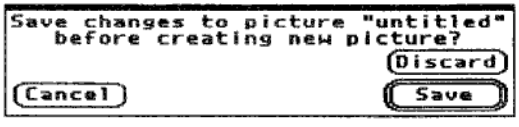


Figure 5.21 *Save Changes Dialog*

If you click Save, the Save Picture dialog appears (see Figure 5.23). Click Discard or press D (or d) to get a new document without saving changes to your current document. Click Cancel or press Esc to cancel your request for a new document.

When the new document appears, all options and preferences (except the current custom brush, if any, and the palette) revert to their default settings. The new file remains Untitled until you save (see **Save** and **Save As**, below).

REVERT

Deletes all changes you've made since you last saved or loaded the picture and reloads the current picture. Revert has no effect if the picture has never been saved.

LOAD...
(Keyboard Equivalent: `L` or `l`)

Loads a picture. When you select Load, this dialog appears:

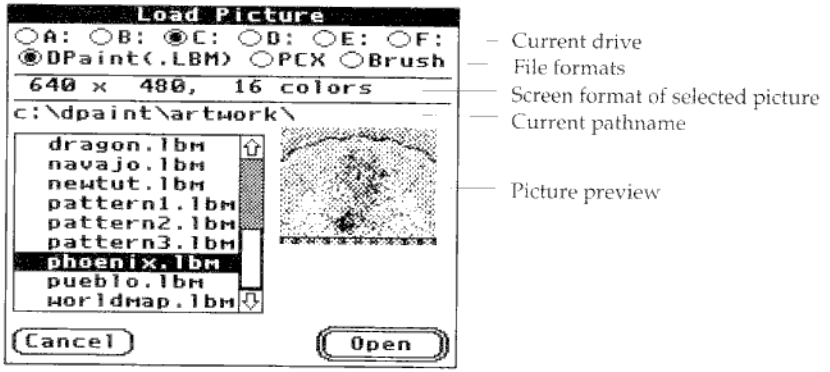


Figure 5.22 *Load Picture Dialog*

The Load Picture dialog displays all of the files in the current directory or on the current disk. If the file you want is in a different drive, click on the button next to the letter of that drive (A-F).

Scroll through the files or directories by clicking on the arrows or dragging the scroll box up and down. On the keyboard, you can use ↑ (up-arrow), ↓ (down-arrow), PgUp, and PgDn to scroll through files and directories. You can also go straight to a directory or file by typing the first letter of its name.

To open a directory, double-click on the directory name, or click once to highlight it, then click Open. To close a directory, press Backspace or click on the current path in the window.

To open a file, double-click on the file name, or click once to highlight it, then click Open. Click Cancel or press Esc if you decide you don't want to load a picture. Note that pictures are loaded with all their attributes: palettes, stencils, and perspective information.

You can load files in any of these formats from the Picture menu:

- DPaint (.LBM) — DeluxePaint's own picture file format. DeluxePaint picture files always have the extension .lbm. When you select a DPaint file (only), a description of the screen resolution, the number of colors used to create the picture, and a picture preview of that file appear in the window.
- PCX — DeluxePaint can read and save documents in Publisher's Paintbrush .PCX format (3.0 or greater). When you select a PCX file, a description of the number of colors used to create the picture and the size of the file, appear in the window.
- Brush — DeluxePaint's own brush file format. Brush files always have the extension .bbm. When you load a brush from the Picture menu, the brush comes up as a picture.

Click the button beside the name of the format you want to use. A list of the files in that format (if any), appears in the window.

SAVE
(Keyboard Equivalent: S)

Saves your most recent changes to the picture. If the picture has never been previously saved, the Save Picture dialog appears:

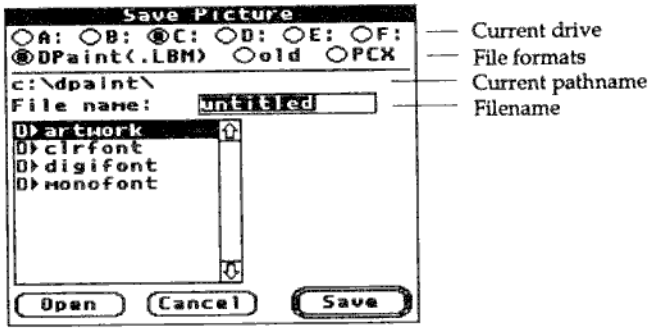


Figure 5.23 *Save Picture Dialog*

Make sure that the current path ends with the subdirectory in which you want to save your file. To open a directory, double-click on the directory name. To close a directory, press Backspace or left-click on the current path in the window.

To save a file to a different drive, click the button next to letter of the new drive (A-F). If you're saving to a floppy disk, make sure there's a formatted disk in the proper drive.

If you want to change the name of the file, click in the File name edit box and type a file name. The name can be up to 8 characters long (12 characters total with the .lbm extension that DeluxePaint automatically adds to your file name.) Click Save or press Return (Enter or ↵) to save the file. Click Cancel or press Esc to cancel the save.

★ Pictures are saved with all their attributes: palettes, stencils, and perspective information. The spare page is *not* saved automatically unless you select **New** from the Picture menu. The spare page *can* be saved separately simply by switching to the spare page and saving the file (*see* **Page<->Spare** below).

Ordinarily you'll use Save to store your images and pictures to disk. But you can also use Save to save special palettes without pictures or images. If you've built a palette that you think might be particularly useful for a certain type of work, a so-called *reference palette*, Save it. When you want to use that palette, load it from the Pict(ure) menu just as you would load any picture file.

_rgb_pal.lbm in the *artwork* subdirectory is a good example of a reference palette. We included it for you because DeluxePaint's default palette has only highly saturated colors. _rgb_pal has colors with high, medium, and low saturation. This makes it useful for anything that can utilize intermediate colors, like anti-aliasing or tranlucency.

SAVE AS...

Saves a copy of the picture under a different name or format. When you select Save As, a standard Save Picture dialog appears (see Figure 5.23, above).

To change the name of the picture, click in the File Name box and type a new file name. The name can be up to 8 characters long (12 characters total with the .lbm extension that DeluxePaint automatically adds to your file name).

Make sure that the current path ends with the subdirectory in which you want to save your file. To open a directory, double-click on the directory name. To close a directory, press Backspace or left-click on the current path in the window.

To save a file to a different drive, left-click on the button next to letter of the new drive. If you're saving to a floppy disk, make sure there's a formatted disk in the drive.

Once you've given the picture a new name, selected a format, and chosen a directory in which to save the picture, click Save or press Enter to save the file.

Pictures are saved with all their attributes: palettes, stencils, and perspective information.

★ The spare page is *not* saved automatically. The spare page *can* be saved separately, however, simply by switching to the spare page and saving the page (*see* **Page<->Spare**).

OLD

This option appears in the Save Picture dialog *only* if you're saving a picture in a 256-color format *and* you want to load this picture into an older version of DeluxePaint II. Click Old to provide your file with the file attributes required by the original version of DeluxePaint II.

PAGE<->SPARE

(Keyboard Equivalent: j)

Swaps the displayed picture with the image on the spare page. The spare page is always the picture you can't see. With two pages to work on, you can use one page as a worktable on which to create brushes and experiment with your picture.

The spare page is always the size of the main picture. You can't increase the size of the spare page. Note that a spare page uses up memory even with nothing on it.

PAGE->SPARE
(Keyboard Equivalent: J)

Copies the entire image to the spare page so you can experiment freely with the image without fear of losing anything. If you've painted on your spare page, this dialog will appear:

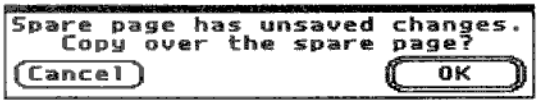


Figure 5.24 *Page→ Spare Dialog*

If you don't have enough EMS (Expanded Memory Specification) for a spare page, it's saved to disk. If you don't have enough disk space to save the spare page (a message will inform you of this), save your picture before experimenting. If you don't like the changes you made, simply Revert to the saved version (See **Revert**, above).

★ Masks are not copied to the spare page.

DELETE

The arrow to the right of this menu option indicates that it is a hierarchical menu, with a series of sub-options. Highlight *Delete* and a sub-menu pops out to the right. Move the cursor to the right to highlight the sub-option of your choice.

THIS PAGE
Deletes the page currently on the screen. This is handy if you're running low on memory. If you think you may need the page later, save the page before deleting it. DeluxePaint asks you to confirm the deletion before it carries out the command. Click OK or press Enter to delete the page. Click Cancel or press Esc to keep the page.

PICTURE

Deletes a previously saved picture. Only DeluxePaint picture files (.lbm) can be deleted with this option. When you select Delete Picture, this dialog appears:

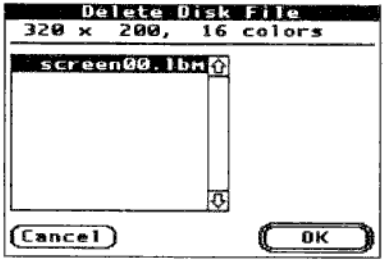


Figure 5.25 *Delete Dialog*

Note that you cannot change directories when deleting a picture. You can only delete .lbm files from the directory you were most recently working in (the directory at the end of the path).

BRUSH

Deletes a previously saved brush. Only DeluxePaint brush files (.bbm) can be deleted with this option. When you select Delete Brush, the Delete Disk dialog appears. Only brush files (.bbm) appear in the window.

Note that you cannot change directories when deleting a brush. You can only delete .bbm files from the directory you were last in (the directory at the end of the path).

STENCIL

Deletes a previously saved mask. Only DeluxePaint mask files (.sbm) can be deleted with this option. When you select Delete Stencil, the Delete Disk dialog appears. Only mask files (.sbm) appear in the window.

Note that you cannot change directories when deleting a mask. You can only delete .sbm files from the directory you were last in (the directory at the end of the path).

PCX

Deletes Publisher's Paintbrush picture files. DeluxePaint can read and save documents in Publisher's Paintbrush .PCX format (3.0 or greater). Only .PCX files appear in the Delete window.

PCC

Deletes Publisher's Paintbrush brush files. DeluxePaint can read and save brushes in Publisher's Paintbrush .PCC format (3.0 or greater). Only .PCC files appear in the Delete window.

VIEW PAGE

(Keyboard Equivalent: v)

If your page is larger than the screen, View Page displays the entire picture in a reduced form. If the current document is the size of the current screen, View Page hides the menus. To show the menus again, press v again, or press F10.

You can't work on the document in this mode — only view it. Press any key or click a mouse button to return to the work window.

PAGE SIZE...

Lets you set the parameters for your document. Because your final printout is a function of the printer you're using, you need to select a printer before you can use this option. See **Choose Pr...** below for information on choosing a printer. In addition, you'll need to delete the spare page (if you have one) before you select Page Size. To delete the spare page, first jump to the spare page, then select **Delete** from this menu.

When you select Page Size a dialog appears:

Figure 5.26 *Page Size Dialog*

SCREEN SIZE: Gives your document the same parameters as your chosen screen format. For example, if your screen format is VGA, with a resolution of 640x480, then your document will be 640 dots wide by 480 dots high.

FULL PAGE: Sizes your document so that it would print a full page on the selected printer printing on the selected paper size (from the Choose Printer dialog, see below).

FULL PAGE AT PRINTER RESOLUTION: Takes the printer's output resolution into account to calculate the page size. For example, if you are printing on US Letter size paper with a 300 dpi printer, your document would have to be 2278 by 3160 pixels. This means that with a display mode of 320 by 200, your document would be considerably larger than the area visible on the screen. Specifically, your document would be seven times wider and twelve times taller than the area visible on the screen.

CUSTOM: Lets you specify the width and height of your document in screen pixels. Select Custom, and enter the width and height in the boxes.

Click OK or press Enter after you've set the page size. Click Cancel to put the dialog away without making any changes.

If your page size is larger than the screen size, you can use the Grabber tool to move your parts of your picture into view or scroll to the offscreen parts of the picture using the arrow keys (↑→↓←). See Hand Tool, above. Press n to center the picture. You can also see a reduced view of the whole picture by selecting View Page (*see* **View Page** *above*).

CHOOSE PR...

Stands for Choose Printer. This option lets you specify the printer you're using, the port it's connected to (LPT1 or LPT2), and the paper size loaded in your printer. When you select Choose Pr..., the following dialog appears:

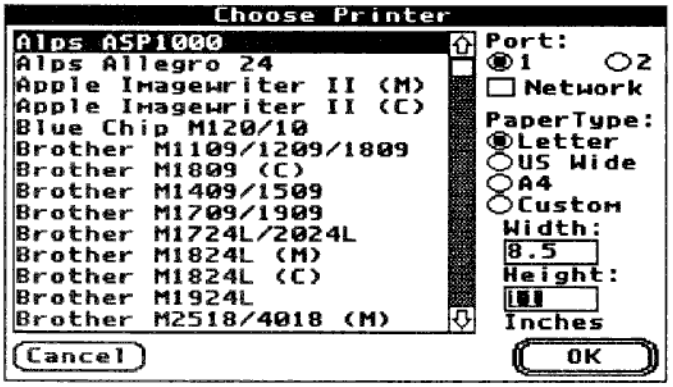


Figure 5.27 *Choose Printer Dialog*

PRINTER TYPE

Highlight the printer you have by clicking on its name. If your printer is not listed, select the name of a compatible printer. Many printers are compatible with one of Epson printers listed.

PORT

Select the printer port your printer is connected to (LPT1 or LPT2).

NETWORK

Check this box if your printer is used over a network.

PAPER SIZE

Select the paper size you want to print on. Paper sizes are:

Letter	8.5 x 11 , US Letter size
US Wide	15 x 11
A4	8.3 x 11.7
Custom	Specify height and width in cm or inches

★ If you're unable to print in one of these formats, check your printer manual for supported features and formats.

PRINT...

Print one or more copies of your picture. Before you can print, you must choose a printer (*see* **Choose Printer** *above*). When you select Print, this dialog appears:

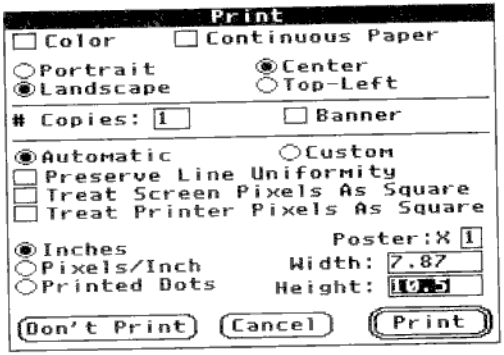


Figure 5.28 *Print Dialog*

COLOR

Click the box if the printer is a color printer. Leave the box empty to print in gray scale on your color printer.

CONTINUOUS PAPER

Check this box if your printer is set to use continuous paper. Leave it unchecked if you need to feed each sheet individually.

PORTRAIT/LANDSCAPE

Select the orientation of the picture to the paper. Portrait prints your image across the width of the page. Landscape prints across the length of the page. Landscape, therefore, changes the width of the area that can be printed on.

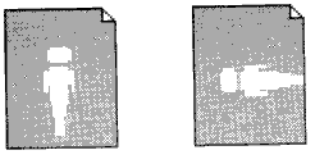


Figure 5.29 *Portrait/Landscape Orientation*

CENTER/TOP-LEFT

Select whether you want the picture arranged in the center or top left corner of the page.

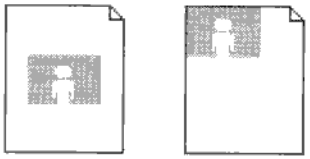


Figure 5.30 *Center/Top-Left*

OF COPIES

Enter the number (1 to 99) of copies you want printed. One (1) is the default.

BANNER

Banner refers to a printing style rather than to a document or picture shaped like a banner. If you've created a picture that's larger than one page, and you wish to print that picture without breaks for form-feeds, select Banner. Your printer will print to the edge of the first page, calculate the form-feed, and continue printing on the subsequent page(s) without displaying unwanted white (blank) space.

AUTOMATIC/CUSTOM

Choose Automatic to let DeluxePaint set the dimensions of your printout. Choose Custom if you want to set the height and width yourself.

PRESERVE LINE UNIFORMITY

Under some circumstances, you may need to choose between preserving the picture's aspect ratio (the ratio of height to width), and preserving the number of lines in the printout. This is because not all screen resolutions map exactly to all printers. Checking this box will preserve the number of lines in the printout, at the possible expense of the screen aspect ratio. This means that a printout may appear squashed or elongated, but all the information in the picture will be preserved.

TREAT SCREEN PIXELS AS SQUARE

Not all screen resolutions use square pixels. Notable examples are EGA 640x200 and 640x350. Check this box if you want DeluxePaint to treat screen pixels as square in the printout. Note that printouts made with this option checked may not have the same aspect ratio as the screen version.

TREAT PRINTER PIXELS AS SQUARE

To add to the complexity, not all printers use square pixels. Check this box if you want DeluxePaint to treat printer dots as square. Again, this may affect the aspect ratio of the printout, depending on the state of the two options above.

POSTER: X

Enter a number from 1 to 9 to magnify your printout that number of times. The magnification factor refers to both height and width, so choosing 9 for example, multiplies both the height and the width nine times, giving you a printout 81 times the size of the original image.

PRINT SIZE

The three buttons at lower left determine the units of measurement of the printout. Click Inches, DPI (Dots Per Inch) or (screen) Pixels to see the size of your printout in those units. You can edit those dimensions directly using the edit boxes at the lower right of the dialog.

Click the Print button to print your picture. Click Cancel to put the dialog away without preserving any changes you've made. Click Don't Print to put the dialog away and preserve any changes you've made.

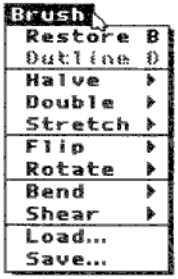
★ See also Appendix F, *Printers Supported by DeluxePaint II Enhanced*.

QUIT

(Keyboard Equivalent: Q)

Lets you exit DeluxePaint and return to DOS. If you quit before saving changes to your picture, a standard Save Picture dialog appears (see Figure 5.23). Be sure to save any artwork you want to keep before quitting. If you want to change screen resolutions, you'll need to quit and then restart the program.

BRUSH MENU



The Brush menu lets you load, save, and manipulate custom brushes.

RESTORE

(Keyboard Equivalent: B)

If you halve, double, stretch, bend, or shear a custom brush, Restore returns the brush to its original shape. Flip, Rotate — 90°, and Rotate — 180° cannot be restored.

OUTLINE

(Keyboard Equivalent: O [capital o])

Outlines a custom brush with a single pixel line in the current foreground color. To increase the thickness of the outline, press O repeatedly.

★ Right-clicking Brush Pickup or pressing B (Restore) restores the original brush *only* if you've pressed O one time.

Figure 5.31 *Outline*

HALVE

BOTH (Keyboard Equivalent: h)
Reduces the current custom brush by half in both the horizontal and vertical axes. For instance, a 20 X 20 brush is resized to 10 X 10.

WIDTH
Reduces the current custom brush by half in the horizontal axis. For instance, a 20 X 20 brush is resized to 10 X 20.

HEIGHT
Reduces the current custom brush by half in the vertical axis. For instance, a 20 X 20 brush is resized to 20 X 10.

DOUBLE

BOTH (Keyboard Equivalent: H)
Doubles the size of the current custom brush. For instance, a 20 X 20 brush is resized to 40 X 40.

WIDTH (Keyboard Equivalent: X)
Doubles the horizontal length of the current custom brush. For instance, a 20 X 20 brush is resized to 40 X 20.

HEIGHT (Keyboard Equivalent: Y)
Doubles the vertical length of the current custom brush. For instance, a 20 X 20 brush is resized to 20 X 40.

Note that increasing the size of a brush (either by doubling or stretching, see below) may require more memory than you have available. In those cases, the resized brush may appear only as an outline.

STRETCH

BOTH (Keyboard Equivalent: Z)
Lets you freely resize the current custom brush along both axes. To resize the brush, hold down the left mouse button and drag to the desired size. Holding down the Shift key constrains the brush to its original height and width proportions. Selecting Restore from this menu or pressing B negates the effects of the stretch.

WIDTH
Lets you freely resize the current custom brush along the horizontal axis. To resize the brush, hold down the left mouse button and drag to the desired size. Selecting Restore from this menu or pressing B negates the effects of the stretch.

HEIGHT

Lets you freely resize the current custom brush along the vertical axis. To resize the brush, hold down the left mouse button and drag to the desired size. Selecting Restore from this menu or pressing B negates the effects of the stretch.

FLIP

LEFT-TO-RIGHT (Keyboard Equivalent: x)
Flips the current brush, producing a mirror image. Select Flip — left-right again to return the brush to its original position.

TOP-TO-BOTTOM (Keyboard Equivalent: y)
Flips the current brush on its head. Select Flip — top-bottom again to return the brush to its original position.

ROTATE

90 DEGREES (Keyboard Equivalent: z)
Rotates the current brush 90° in a clockwise direction.

180 DEGREES

Rotates the current brush 180°. Select Rotate — turn over again to return the brush to its original position.

ANY ANGLE

Lets you rotate the current brush to any angle. Hold the left mouse button down and drag the outline of the brush to the desired position. Release the mouse button. Select Restore from this menu to move the brush back to its original position.

BEND

LEFT-AND-RIGHT

Lets you bend the current brush from its center to the right or left. Hold down the left mouse button and drag the outline of the brush to the desired position. Release the mouse button to set the brush.

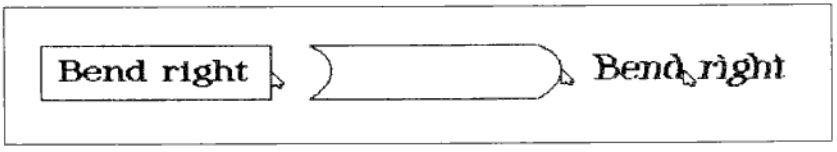


Figure 5.32 *Bend left-right*

Select Restore from this menu to negate the effects of the bend.

UP-AND-DOWN
Lets you bend the current brush from its center upward or downward. Hold down the left mouse button and drag the outline of the brush to the desired position. Release the mouse button to set the brush.

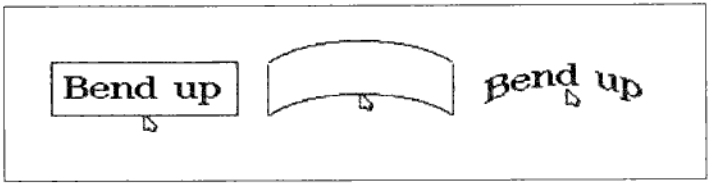


Figure 5.33 *Bend up-down*

Select **Restore** from this menu to negate the effects of the bend.

SHEAR

LEFT-AND-RIGHT
Lets you stretch the current custom brush from a single anchor point. Select Shear — left-right and hold down the left mouse button. Move the mouse to the right or left — the top of the brush remains anchored. Release the mouse button to set the brush.

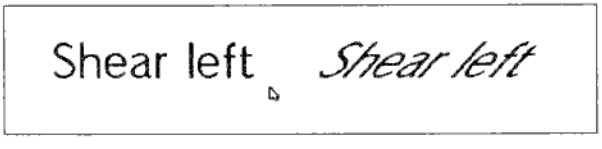


Figure 5.34 *Shearing left and right*

Select **Restore** from this menu to negate the effects of the shear.

UP-AND-DOWN

Lets you stretch the current custom brush from a single anchor point. Select Shear—up-down and hold down the left mouse button. Move the mouse up or down — the left side of the brush remains anchored. Release the mouse button to set the brush.

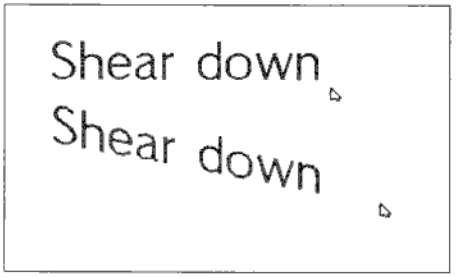


Figure 5.35 *Shearing up and down*

Select **Restore** from this menu to negate the effects of the shear.

LOAD...

Loads a brush. When you select Load from the Brush menu, this dialog appears:

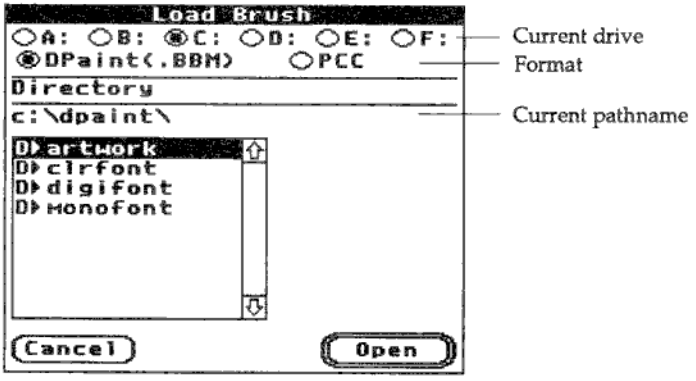


Figure 5.36 *Load Brush Dialog*

The Load Brush dialog displays all DeluxePaint brush files in the current folder or on the current disk. If the file you want is in a different drive, click on the button next to the letter of the new drive (A-F).

Scroll through the files or directories by clicking on the arrows or dragging the scroll box up and down. On the keyboard, you can use ↑ (up-arrow), ↓ (down-arrow), PgUp, and PgDn to scroll through files and directories. You can also go straight to a directory or file by typing the first letter of its name.

To open a directory, double-click on the directory name or click once to highlight it, then click Open. To close a directory, press Backspace or click on the current path in the window.

To open a brush file, double-click on the file name or click once to highlight it, then click Open.

If the brush palette is different from the picture palette, you'll need to decide which palette to use, or whether to remap one of the two palettes. (Remember, a loaded brush brings along its own palette information.) To use the brush's palette, select Palette ▶ From Brush from the Misc. menu. For more information on remapping palettes, see **Remap Clrs** from the Misc. menu.

You can load the following file formats from the Brush menu:

- DeluxePaint (.BBM) — DeluxePaint's own brush file format. Brush files always have the extension .bbm.
- PCC— DeluxePaint can read and save brushes in Publisher's Paintbrush .PCC format. You can load Publisher's Paintbrush files as brushes.

SAVE...

Saves a brush. When you select Save... under the Brush menu, this dialog appears:

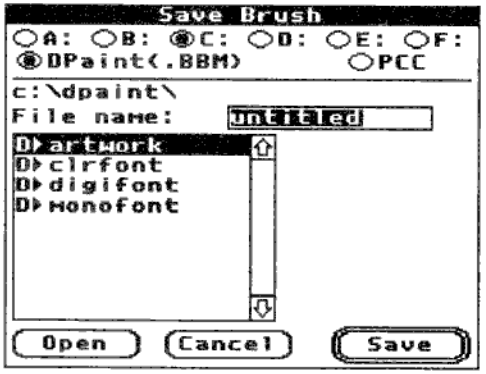


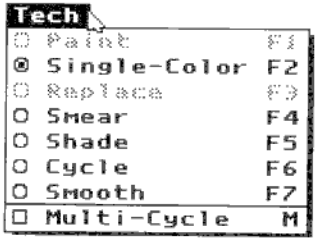
Figure 5.37 *Save Brush Dialog*

Make sure that the current path ends with the subdirectory in which you want to save your file. To open a directory, double-click on the directory name. To close a directory, press Backspace or click on the current path in the window.

To save a brush to a different drive, click on the button next to the letter of the new drive. If you're saving to a floppy disk, make sure there's a formatted disk in the drive.

If you want to change the name of the brush file, click in the File Name box and type a file name. The name can be up to 8 characters long (12 characters total with the .bbm extension that DeluxePaint automatically adds to your brush file name). Click Save or press Enter to save the file. Click Cancel or press Esc to cancel the save.

TECHNIQUES MENU



The Techniques menu lets you change the paint modes of the current brush and make subtle changes to the paint on-screen. The keyboard equivalents in this menu are especially helpful — they allow you to modify your brush without removing it from the page.

PAINT

(Keyboard Equivalent: F1)

The default mode for *custom* brushes only. In this mode, the custom brush is painted exactly as it was picked up (unless the brush was created in transparent mode, in which case the background color is transparent).

SINGLE COLOR

(Keyboard Equivalent: F2)

Uses the shape of the custom brush but in the current foreground color. Any transparent pixels remain transparent.

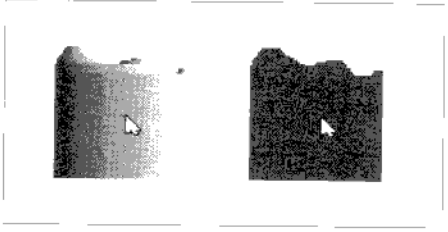


Figure 5.38 *Custom brush converted into a single color brush*

REPLACE

(Keyboard Equivalent: F3)

Like **Paint** above, except that there are no transparent colors. This is only used with custom brushes.

SMEAR
(Keyboard Equivalent: F4)

Smears colors when you drag a brush over them — just like smearing a wet oil painting with your fingers. Smear doesn't add any new colors; only the brush's shape affects the painting.

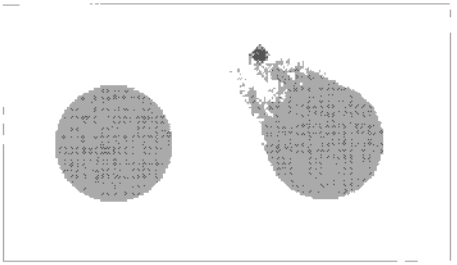


Figure 5.39 *Smear effects*

To smear colors on your picture, use a brush no larger than one fourth the size of your screen; select Smear and then, holding down the left mouse button, move the brush over the areas you want to smear. Colors below the brush are dragged in the direction the brush is moved.

★ White is considered a color, too, and will smear like the others.

SHADE
(Keyboard Equivalent: F5)

Use Shade to create subtle shading effects on those colors in your picture that are in a cycle range. You select the range you want to work with by selecting a foreground color in that range. Then, if the color under your brush is in that range, Shade paints over the color under your brush with the next color in that range. (For example, if one of your ranges consists of white, pink, and red and you've selected a current foreground color in that range, you can paint over white with pink, and you can paint over pink with red, and so on.)

You can paint with the next-higher color in the range by pressing the left mouse button, and with the next-lower color by pressing the right mouse button. "Higher" and "lower" are relative to the color under the

brush at the time. If the current foreground color is in a cycle range, Shade has no effect on colors outside that range. If the current foreground color is not in a cycle range, Shade paints over all colors under the brush, treating the entire palette as a cycle range. If the current foreground color is a member of more than one range, DeluxePaint selects the most recently selected of those ranges.

★ Shade is dependent on the availability of colors in the palette, and is most effective in 256-color display modes. In 256-color modes, if no color range has been defined, each vertical group of 16 colors is considered to be in such a range. For defining a color range, see discussion on Gradients earlier in this chapter.

CYCLE
(Keyboard Equivalent: F6)

Cycles through all the colors in the current color range *as you draw*. Cycle ignores the colors of the brush and uses only the brush's *shape*. To use a brush in Cycle mode:

- Define a color range (see Chapter 4, *Tutorial 1, Defining Color Ranges*). Note that in 256-color modes, each vertical group of 16 colors is considered to be in such a range.
- Select a foreground color from the palette by clicking on it with the left mouse button. The color must be from a color range in order for Cycle to work. (If the color is not from a cycle range, the brush will paint with only the foreground color.)
- Select a built-in brush or create a custom brush.
- Hold down the left mouse button and move the mouse to paint.

If you're using a multi-colored brush, select Cycle *and* Multi-Cycle (see **Multi-Cycle** below).

★ The Cycling option in the Color menu has a different function — it turns on a flashing animation effect (see **Cycling** in the Color menu).

SMOOTH
(Keyboard Equivalent: F7)

Softens hard lines and reduces the contrast between adjoining areas. Useful for creating airbrush effects by smoothing out contrasting boundaries, or for eliminating jagged edges. Smooth looks at contrasting colors under the brush and adds intermediate colors from the palette to make a smooth transition between shades:

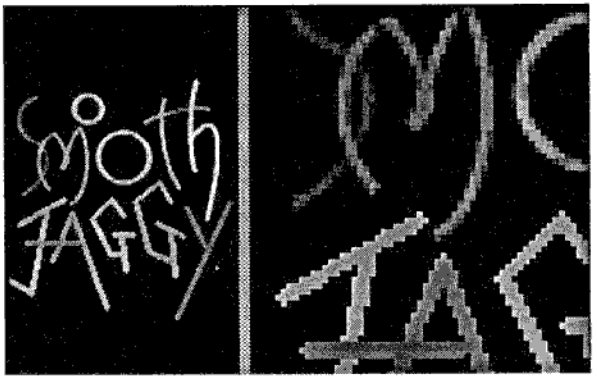


Figure 5.40 *Smooth effects*

How well the smooth option works depends on the number of colors your graphics card is capable of — the more colors on your palette, the more intermediate colors can be added to soften your picture. To smooth parts of your picture:

- Select a brush no larger than one fourth the size of your screen and choose Smooth.
- Holding down the left mouse button, move the brush over the area you want to smooth. Pause occasionally to let your computer work out the smoothing process.

Color ranges and the foreground color have no effect on smoothing. Like Smear, Smooth does not work if brush size is greater than one fourth the screen size.

MULTI-CYCLE

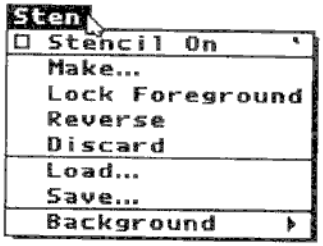
(Keyboard Equivalent: M)

Use Multi-Cycle in conjunction with **Cycle**. Multi-Cycle only works when you have a brush with two or more colors in it. Each color in the brush cycles through its color range independent of the other colors.

To use a brush in Multi-Cycle mode:

- ▶ Select or create a custom brush with more than one color in it.
- ▶ Define one or more color ranges for the colors in your brush (see Tutorial 1 for information on defining color ranges). Pixels that are not in a color range won't cycle. Paint with the brush.
- ★ Multi-Cycle actually alters the colors of your brush — you cannot restore the previous version of your brush.

STENCIL MENU



The Stencil menu lets you create, load, save, and clear stencils. Using a stencil on an area is like protecting that area with masking tape — you cannot apply paint to it. For this reason stencils are often referred to as masks. When you use the Brush Pickup tool (see Toolbox, above) on an area that contains masked colors, those colors will be transparent in the custom brush.

★ You cannot use a Stencil with the two highest resolution screen formats, u and v (1024 x 768 pixels).

STENCIL ON

(Keyboard Equivalent: `)

Activates the current stencil. When the stencil is on, an X appears in the Stencil On check box. If there is no current stencil, selecting this option is the same as selecting **Make** (*see below*). To deactivate the stencil, select Stencil On again — the X disappears from the check box when the stencil is deactivated.

MAKE...

Let's you *mask* one or more colors. A masked color, no matter where it appears on the screen, will be unaffected by any paint you apply to the picture:

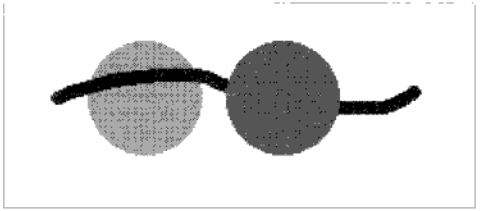


Figure 5.41 *Masked areas remain unaffected*

When you select Make, the Make Stencil dialog appears:

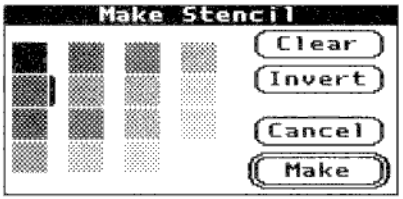


Figure 5.42 *Make Stencil Dialog*

To move the dialog to a convenient place on the screen, point the cursor on its title bar, and drag the dialog box out of the way.

Click the colors you want to mask — either in the Make Stencil dialog, on the screen, or in the Palette box. A vertical black bar appears in the Make Stencil dialog to the right of each masked color. To deselect a color, left-click on the color's box a second time. You can also reverse the masked colors by clicking Invert.

Click Make to make the stencil. An S appears in the Info Bar to let you know a stencil is active (See **Info Bar**, below). When you select Make, the *shape* of the stencil is stored in memory, *not* the specific colors. Thus, anything you add to your picture after making the stencil is not pro-

tected — *even if you paint with a color that you selected earlier as a masked color.* To mask the newly applied colors, select **Make** again, then click Make. (Here's a useful short cut: Pressing the letter a at any time repeats your last menu command, including the reappearance of dialogs. Thus, to remask a previously masked color, press a, then press Enter.)

To clear a stencil, select Clear from the Make Stencil dialog or simply select **Discard** from the Stencil menu (see below).

LOCK FOREGROUND

Use this in conjunction with fixed background (see **Background**, below). This option locks all the paint added since fixing the background. Note that when you lock the foreground, you're adding the newly applied paint to any existing stencils.

★ Screen formats p, q, t, u, v (see Figure 1.1) do not support Lock Foreground or Background ▶ Fix.

REVERSE

Reverses the *areas* on your screen that are masked — all masked areas are unmasked and vice-versa. Use this option to switch between two separate areas on your picture:

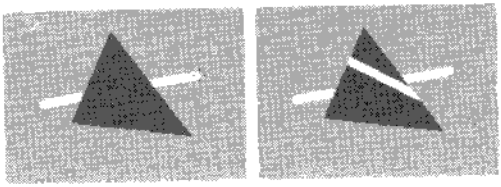


Figure 5.43 *Reverse stencils*

This is in contrast to Invert, which is available from the Make Stencil dialog (see above). Invert switches the masked and unmasked colors in the dialog.

DISCARD

Clears the current stencil only. Previously masked colors remain selected in the Make Stencil dialog.

LOAD...

Loads a previously saved stencil. When you select Load from the Stencil menu, this dialog appears:

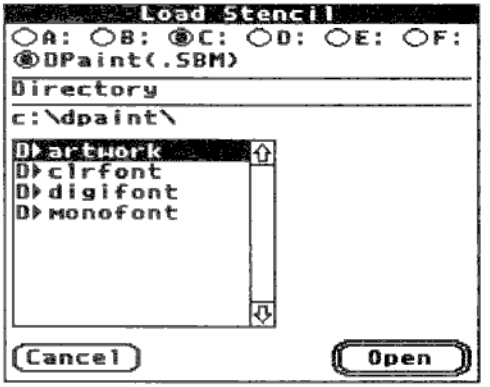


Figure 5.44 *Load Stencil Dialog*

The Load Stencil dialog displays all DeluxePaint stencil files (.sbm) in the current folder or on the current disk. To scroll through the files or directories, click-left on the up and down arrows or drag the scroll box up and down. On the keyboard, you can use ↑, ↓, PgUp, PgDn, Home, and End to scroll through stencil files and directories. You can also go straight to a directory or stencil by typing the first letter of its name.

If you don't see the stencil you want, change directories or select a new drive. To open a directory, double-click on the directory name. To close a directory, press Backspace or left-click on the current path in the window. If the stencil you want is in a different drive, left-click on the button next to the letter of the new drive.

Left-click the file you want to open to highlight it, then click Open (or double-click on the file to open it). Select Cancel if you decide you don't want to open a file after all.

SAVE...

Saves a stencil that you can load into any other DeluxePaint picture of the same size. When you select Save, this dialog appears.

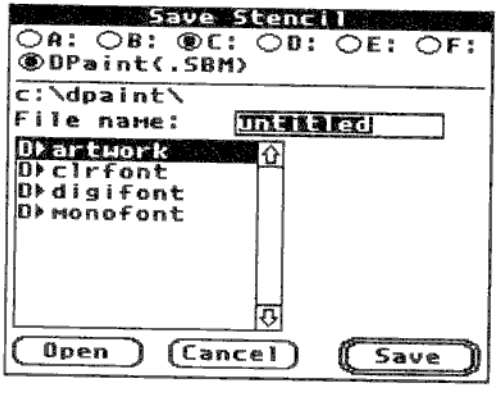


Figure 5.45 *Save Stencil Dialog*

Make sure that the current path ends with the subdirectory in which you want to save your file. To open a directory, double-click on the directory name. To close a directory, press Backspace or click on the current path in the window.

To save a stencil to a different drive, click on the button next to letter of the new drive. If you're saving to a floppy disk, make sure there's a formatted disk in the drive.

If you want to change the name of the file, click in the File Name box and type a file name. The name can be up to 8 characters long, or 12 characters with the .sbm extension. (DeluxePaint automatically adds the extension .sbm to your stencil file name.) Click Save or press Enter to save the file. Click Cancel or press Esc to cancel the save.

BACKGROUND

If you have EMS (Expanded Memory Specification) you can use this command to turn the current picture into a semi-permanent background. You can paint over this background and experiment with changes as much as you want when you want to return to your original

picture, simply click CLR. Note that you can't pick up any images you painted before you fixed the background. Background has two sub-options:

FIX

Fixes the current picture so that it cannot be erased or cleared. Select this option again to re-Fix a background after you've added more paint.

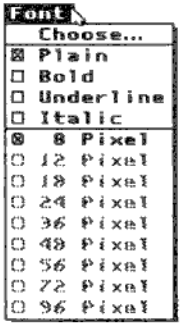
★ In screen formats e, f, j, k, r, and s (see Figure 1.1) you need EMS equivalent to two times the size of your picture to use Background ▶ Fix. This means that if your picture uses 40K of memory, you need at least 80K of EMS. If your picture is disk-based (larger than screen-size) you also need EMS equivalent to two times the size of your image, in any format. Screen formats p, q, t, u, and v do *not* support Background ▶ Fix at all.

FREE

Select this option to free the background, and release the memory associated with it. Selecting CLR from the Toolbox will clear the entire picture.

Fixing the background uses up memory; releasing it frees up memory.

FONT MENU



Lets you change the appearance of text. Change fonts, styles, and sizes. To enter text, left-click the Text tool or press `t`.

★ Your font files are in the monofont subdirectory, which was automatically created in your DPAINT directory when you installed the program.

CHOOSE

Lets you choose a particular font (or typeface). When you select Choose Font or right-click on the Text tool, this dialog appears:

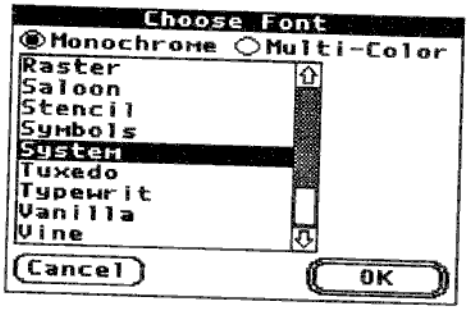


Figure 5.46 *Choose Font Dialog*

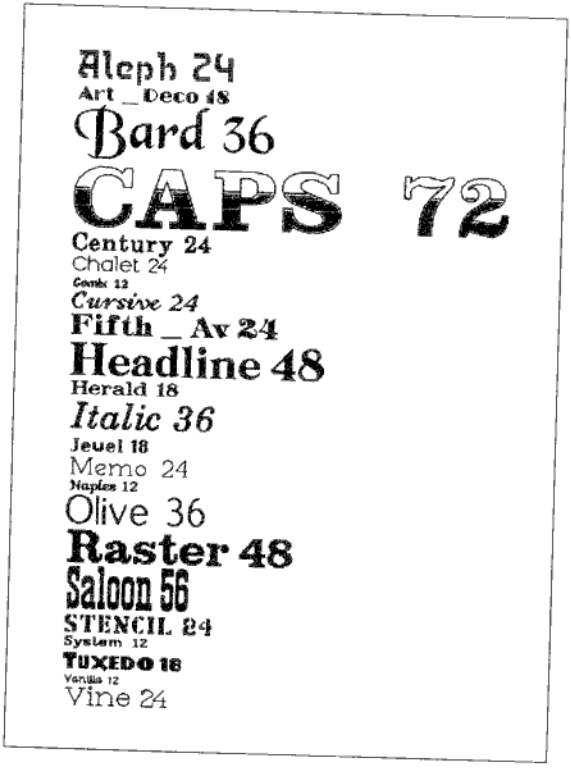
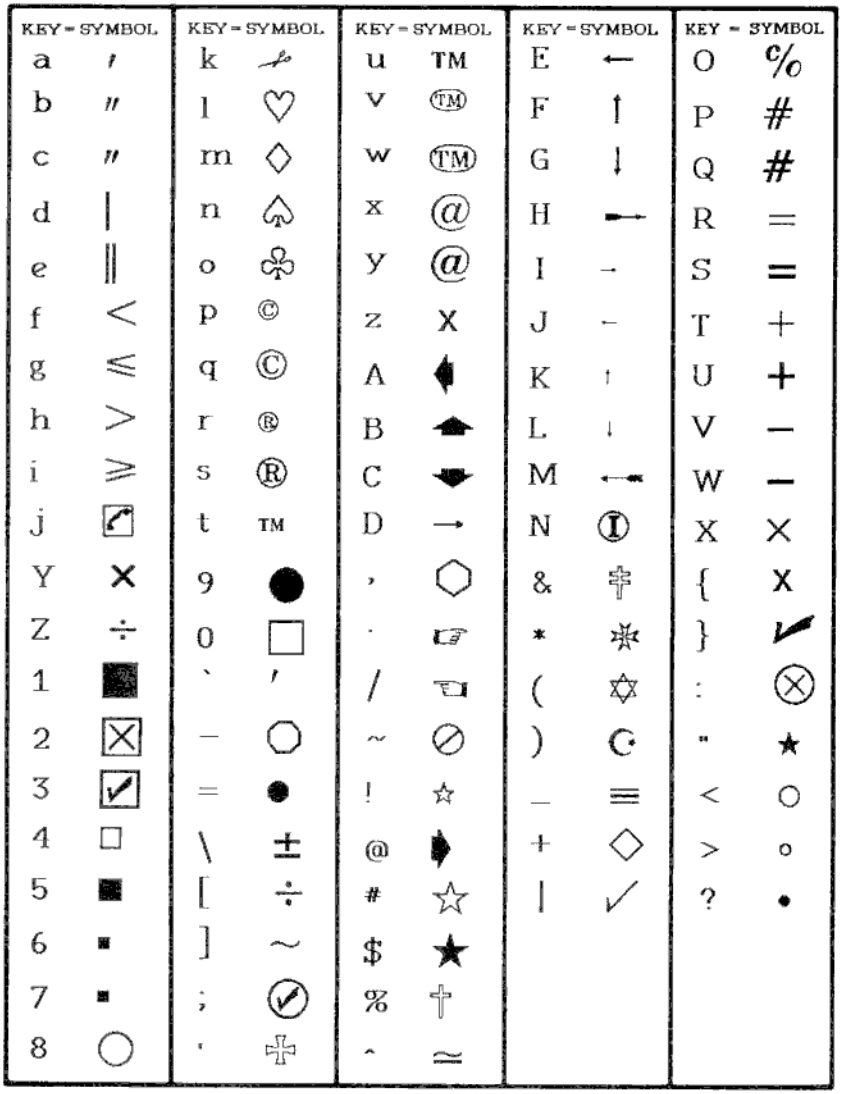


Table 5.4 *DeluxePaint II Enhanced Fonts*



KEY = SYMBOL	KEY = SYMBOL	KEY = SYMBOL	KEY = SYMBOL	KEY = SYMBOL
a ′	k ♣	u ™	E ←	O %
b ″	l ♡	v ™	F ↑	P #
c ″	m ◇	w ™	G ↓	Q #
d |	n ♤	x @	H ←	R =
e ‖	o ♧	y @	I →	S =
f <	p ©	z X	J ←	T +
g ≤	q ©	A ◆	K ↑	U +
h >	r ®	B ▲	L ↓	V −
i ≥	s ®	C ▼	M ↔	W −
j ✓	t ™	D →	N Ⓘ	X ×
Y ×	9 ●	, ⬡	& ✝	{ X
Z ÷	0 □	. ☞	* ✲	} ✓
1 ■	` ′	/ ☜	(✡	: ⊗
2 ☒	– ○	~ ⊘	) ☪	" ★
3 ☑	= ●	! ☆	_ ≡	< ○
4 □	\ ±	@ ➧	+ ◇	> ∘
5 ■	[÷	# ☆	| ✓	? •
6 ▪	] ~	$ ★		
7 ▪	; ✓	% ✝		
8 ○	' ✠	^ ≃		

Table 5.5 *Symbols font*

Fonts come in various pixel sizes. To find out which sizes are available for the various fonts, consult the font/pixel size table in the lower part of the Font menu:

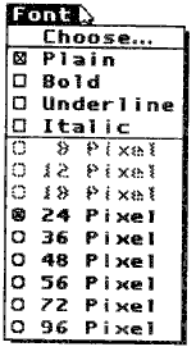


Figure 5.47 *Font pixel size table*

Highlight the font you want and click OK. After you've chosen the font, pull down the font menu again and select the font size.

PLAIN

Plain is the default style. Unless you've chosen bold, underline, or italics, plain is selected (an X appears in the check box). Selecting Plain turns off all other style options.

BOLD

Paints the current font in boldface. Select Bold a second time to deactivate it (X disappears from the check box).

UNDERLINE

Underlines the text as you type. Select Underline a second time to deactivate it (X disappears from the check box).

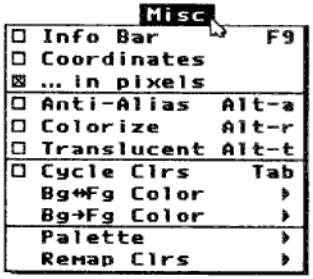
ITALIC

Paints the current font in italics. Select Italics a second time to deactivate it (X disappears from the check box).

SIZES...

Lets you choose a size in pixels for your font. If you choose, for example, 24 pixel, the distance between the bottom of a descending letter (like a g) to the top of an ascending letter (like an h) will be 24 pixels. Select a size by highlighting it and releasing the mouse button. (The pixel sizes available for your current font are listed in bold print; pixel sizes that are *not* available for the current font are grayed out.)

MISCELLANEOUS MENU



The Miscellaneous (Misc) menu contains a number of options that otherwise defy classification. These include, among others, showing/hiding the Info Bar, and turning anti-aliasing on and off.

INFO BAR

(Keyboard Equivalent: F9)

Turns the Info bar at the bottom of the screen on and off. The Info bar displays the following information:

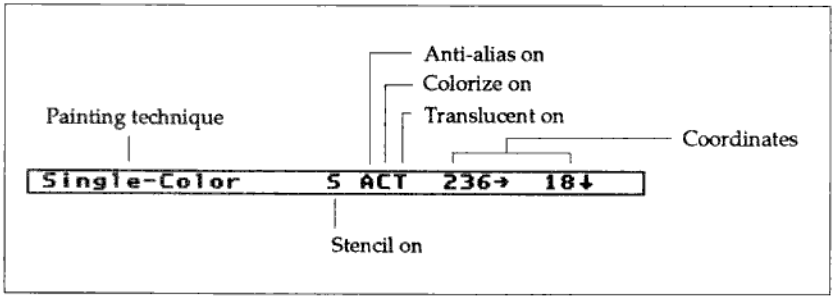


Figure 5.48 *Info Bar*

TECHNIQUES

Displays the current painting technique (see Techniques menu above).

★ Technique information is not visible when memory availability information is displayed.

COLOR FILL BOX

Displays the current pattern fill, gradient fill, or perspective fill. The Color Fill Box is absent if the fill mode is set to Solid (see Fill tool, above).

S

Appears when a Stencil is active (see Stencil menu, above).

B

Appears when the Background is fixed (see Stencil menu for more on fixing backgrounds).

A

Appears when Anti-aliasing is selected (see below).

C

Appears when Colorize is selected (see below).

T

Appears when Translucent is selected (see below).

COORDINATES

Displays the coordinates of the cursor position when **Coordinates** is selected (see **Coordinates**, below). You can use these coordinates to calculate the size of your brush. When **Coordinates** is not chosen, the Info Bar displays the name of the current picture.

MEMORY AVAILABILITY

Press Control-a to display the amount of available memory (see Appendix D, *Managing Memory* for more information). This keyboard command doesn't work when the Text tool is active. The memory display replaces the Techniques entry in the Info Bar; the next time you choose a painting technique, it will replace the memory display.

To deactivate the Info Bar display, select **Info Bar** a second time (X disappears from the check box) or press F9 again.

COORDINATES

Selecting Coordinates activates the Info Bar to display the coordinates of the current cursor position. Coordinates are measured in the units specified in the Preferences menu (see below).

Initially, the origin (0,0) is set to the upper left-hand corner of the screen. Holding the left mouse button down *temporarily* resets the origin to the current mouse position. The new origin is 1, 1. Moving the mouse while holding the button down displays the displacement value from the temporary origin. You can use this to measure the size of shapes you're drawing.

★ When using the Perspective tool, turn off Coordinates in order to see axis rotation information.

...IN PIXELS

Checking this box displays coordinates in pixels, irrespective of the units of measurement specified in the Preferences menu (see below).

ANTI-ALIAS

(Keyboard Equivalent: Alt-a)

★ To use the keyboard equivalent, press and hold down the Alt key, and then press the letter a.

Anti-aliasing is a smoothing process which eliminates or reduces the jagged edges apparent in lines that aren't precisely vertical or horizontal. Like **Smooth** in the Techniques menu, the effectiveness of anti-aliasing is dependent on the range of colors in the palette. For example, to draw a smooth, oblique black line on a white background, you'll need to have two intermediate shades of gray in the palette.

Anti-aliasing works with straight and curved lines, with filled and unfilled shapes, and with the Freehand Brush (in Continuous mode). Turn Anti-alias on by clicking the option (an X appears in the checkbox). When the option is on, you can use the + or - keys to adjust the size of the selected built-in brush in 1/4 pixel increments or decrements. Click Anti-alias again to turn it off. You can also press Alt-a to toggle Anti-alias on and off.

COLORIZE
(Keyboard Equivalent: Alt-r)

Use this option with any painting tool to colorize a black and white or grayscale picture. Colorize adds the current foreground color to a black and white picture, preserving the value (the degree of black) of the original color. Alt-r toggles Colorize on and off.

★ To use the keyboard equivalent, press and hold down the Alt key, and then press the letter r.

TRANSLUCENT
(Keyboard Equivalent: Alt-t)

Painting with Translucent on has the effect of laying a transparency or colored filter over a portion of your picture. The transparency is tinted toward the current foreground color. The degree of tinting is determined by the Translucent level (percentage) set in the Fill Type dialog (see Fill tool and Filled Shape tools, above).

Here's an example of how Translucent works. Let'say you have a red object in your painting with the RGB values R:100% G:0% B:0%, and that blue (R:0% G:0% B:100%) is your foreground color. If you set the translucency level to 50% (in the Fill Type dialog) and painted over the red object, the resulting color would be equal to 50% of the object's color, red, and 50% of the foreground color, blue. The RGB value of the resulting color is R:050% G:000% B:050%. If this color is not in the current palette, the closest color to this value will be used instead.

The percentage value for translucency refers to the amount of the original object that will show through the newly applied foreground color. For instance, in the above example if the translucency level was set to 75%, the resulting color would be 75% of the existing color in the painting, red, and 25% of the foreground color, blue. The RGB value of the resulting color would be R:075% G:000% B:025%.

You can quickly determine the result of using any translucency by multiplying the picture's R (red) value by the translucency percentage and the foreground color's R value by the remaining percentage (100% minus translucency percentage) and then adding the results. In the above example, the picture's R value is 100. Multiply this by 75% (100 x

.75) to get 75. The foreground's R value is 0. Multiply this by 25% (100% minus translucency percentage) to get 0. Add the 75 and 0 values to get the new R value of 75. Repeat this for the G (green) and B (blue) values.

Translucent works with all the painting tools, including the filled shape tools, the Fill tool, the straight line and curve tools, and the Continuous Freehand Brush. Alt-t toggles Translucent on and off.

★ To use the keyboard equivalent, press and hold down the Alt key, and then press the letter t.

CYCLE COLORS
(Keyboard Equivalent: Tab)

Makes the colors on the screen continuously cycle through their color range, creating an animation effect. Any color on the screen that's a member of a gradient or color range will cycle through the entire range, provided that cycling speed is set at a level greater than zero (see Gradient Selector, above). To turn off the color cycling feature, select Cycling again or press Tab (the X in the check box will disappear).

★ This option has no effect in two color and four color screen formats.

BG<->FG COLOR

PICTURE/BRUSH
Swaps all pixels matching the current background color with those matching the current foreground color. This is similar to the **BG–> FG** option below except that the change occurs in both directions. The change occurs on the brush or picture only and doesn't affect the order of colors on the Palette. Since you cannot **Undo** this change, you're asked to confirm your choice when you select this option.

BG->FG COLOR

PICTURE/BRUSH

Changes all pixels matching the current background color to the current foreground color. The change occurs on the brush or picture only and doesn't affect the order of colors on the Palette. Since you cannot **Undo** this change, you're asked to confirm your choice when you select this option.

PALETTE

Lets you modify the current palette and load other palettes. Provides the following options in a pop-up menu:

DIALOG...

(Keyboard Equivalent: p)

Lets you modify your palette and define color ranges through the Palette dialog. This dialog is discussed in detail under *Color Indicator* in the Toolbox, above.

RESTORE

Returns you to the palette you were using before the current palette. For instance, if you loaded a picture with a different palette, Restore reverts to the palette in effect before the load.

DEFAULT

Returns you to the default palette, the one that you always start with when you first boot DeluxePaint.

★ Selecting this option changes color range and cycle speed to their default settings.

FROM BRUSH

When you load a brush, DeluxePaint continues to use the current picture palette, even though it may be different from the one with which the brush was created. From Brush replaces the current palette with the palette that was used to create the brush.

★ Selecting this option also changes color range and cycle speed to the brush's settings.

REMAP CLRS

PICTURE

When you create a picture, DeluxePaint "remembers" each color on the screen by remembering its location in the palette. If a picture on the screen was created with a palette other than the current palette (for example, if you modified the palette since loading the picture), Remap finds the locations in the current palette of the colors (closest to those) it used in the original palette and "tells" the picture to look there for its colors. **Undo** does not reverse this change.

BRUSH

Use Remap when you load a brush that uses a palette different from the current palette. Remap looks at the colors used in the brush and tries to find the closest fit within the current palette. This option differs from **Palette ▶ From Brush**, because it doesn't change the palette, but only the palette locations the brush looks in for its colors.

PREFERENCES MENU

FAST FEEDBACK

Select this option when you want to paint more quickly with a large brush. As you draw with the Line or Unfilled Shape tool, only a one-pixel line is displayed. When you release the mouse button, the thick lines of your brush are filled in. Use Fast Feedback when you don't want to wait for the screen to constantly update itself while you're drawing.

To deactivate this option, select Fast Feedback a second time (the X disappears from the check box).

SQUARE ASPECT

Because pixels in some screen resolutions are not perfectly square, squares and circles drawn with the shape tools do not appear perfectly square or round on the screen (though they may print well). To make built-in brushes, shape tools, and symmetry look truer to their intended shapes on the screen, select Square Aspect. The effectiveness of this

option depends on your monitor and the screen format you're using. Square Aspect doesn't square gridding or perspective.

To deactivate this option, select Square Aspect a second time (the X disappears from the check box).

VIDEO PATTERNS

Selecting Video Patterns modifies the default pattern set and gradient(s) to include patterns that minimize flickering when using NTSC monitors and for other video applications.

HALFTONES

Selecting Halftones modifies the default pattern set to include patterns that optimize printing of halftone images.

BRUSH HANDLE

Lets you specify how you *hold* your brush. The default brush handle is in the center of the brush. When you activate the Brush Handle option (click it and an X appears in the check box), you're automatically *holding* the brush by a corner. Which of the four corners is determined by where you released the mouse button when you picked up the brush. If you want your handle to appear on a different corner, you must pick up the brush again. Begin your pickup opposite to where you want to position the handle. Release the mouse button where you want the handle to be.

To deactivate the Brush Handle option, select it a second time.

EXCLUDE EDGE

If you pick up a brush with Exclude Edge and the Grid tool activated, a one-pixel border on the right and bottom edges will be excluded. This is useful if your brush has a colored border around it and you want to use the brush to create a pattern fill or perspective fill (using the Fill Type window). When you create the pattern, the border remains a uniform width throughout instead of being twice as wide where the copies of the brush meet.

BACKUP PICT

To save a backup copy of the document you're working on in the current directory, check Backup Pict. You can only save one picture for each directory in this way. The picture appears in the directory window as _backup_.lbm. If Backup Pict is active the next time you save a picture, the older _backup_.lbm is replaced by the newer one.

INCHES/CENTIMETERS/POINTS (1/72")

Selects the unit of measurement you'll use in the Print, Choose Printer, and Page Size dialogs. The Info Bar will also display information in this unit.

SPARE PREFS...

Lets you specify which drive to store the spare page on. When you select Spare Prefs this dialog appears:

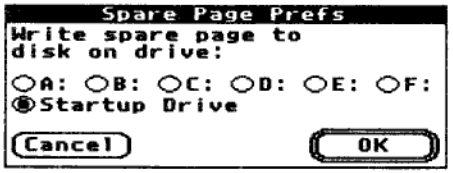


Figure 5.49 *Spare Page Prefs*

Select the appropriate drive: A-F or the drive you booted from (the Startup Drive) and click OK.

You can view the stored spare page by choosing **Page<->Spare** from the Pict menu (or by pressing `j`). See Pict(ure) menu, above, for Spare Page options.

NOTES

APPENDICES

NOTES

CONVERT

TRANSFERRING IMAGES TO AND FROM DELUXEPAINT

Included on your DeluxePaint program disk are the Convert and Camera (Appendix B) utilities, which help you transfer images created with other programs into DeluxePaint. Convert also lets you transfer files from DeluxePaint into certain other paint programs.

CONVERT

Convert is a utility that lets you convert files created in other file formats, for example, PC Paintbrush (3.0 or later), Microsoft Windows Paint 2.0, the TIFF (grayscale or color non-compressed) files generated by most scanners, and MacPaint files, into DeluxePaint files, and vice versa.

★ If the file you want to convert was created on anything other than IBM or IBM-compatible hardware, you must first use some means to transfer the file to your machine, (like a wire transfer on a network or a floppy-conversion program) so that DeluxePaint can read it.

For example, you can use Convert to convert a black-and-white drawing created with MacPaint into a DeluxePaint picture file. After you convert the file, you can load the picture in DeluxePaint, add color and special effects, and print it. This utility can convert pictures that are larger than the screen. Their size is limited only by the amount of base memory you have in your computer.

If you want to take a picture of an image created in any program other than DeluxePaint, PC Paintbrush (3.0 or greater), Microsoft Windows Paint 2.0, or MacPaint, use the Camera utility (see Appendix B).

CONVERTING A PAINT FILE

CONVERSION WITH PROMPTS

If you've never used Convert, this is a convenient way to learn to program.

▶ Boot your machine and go to the directory you stored DeluxePaint in. At the DOS prompt, type CONVERT and press Enter.

You'll receive prompts to convert the file. The instructions are self explanatory. The following is a summary of the information you must specify for DeluxePaint to convert a file.

Input file type — The file type you're converting *from* (the file type used by the program which created the artwork).

Input name — The name of the file, including the file extension.

Output file type — The file type you're converting the picture *to*, including the file extension.

Output name — The name of the new file you want to create. *You should always give converted files new names, even if it's only a matter of changing the file extension.* Be sure to add the file extension .lbm so that DeluxePaint can recognize the file.

Options — You can apply special options to the new file. The following is a brief summary of the alterations you can make:

-s Stretches *or* shrinks the picture to the dimensions you specify. (Example: You could enlarge a 320 x 200 document by adding -s 640 480 to the convert command.)

-p Increases the size of the document while leaving the image the same size. The extra space created around the picture is filled with white.

-f x Adds Floyd-Steinberg dithering using a specified number of common colors. This is particularly useful when the number of colors in the palette is being reduced. (Example: A Floyd-Steinberg dither would be useful when converting a palette from 16-colors to black and white. In this example, you'd add -fm to the command.)

-r x The -r option is not supported in this version of the Convert utility program. Use of the -r option will yield unpredictable results.

-e Converts to a standard EGA 16-color palette.

-c Converts to a standard CGA 4-color palette.

-m Converts to a standard black and white palette.

-n x Reduces the palette to the first x number of colors in the original picture's palette. (Example: You could use the first just the first 16 colors in the palette by adding -r 16 to the convert command.)

-b Uses the palette from a DeluxePaint file. (For example, you could give the converted file the same palette as "dragon.lbm" by adding -b dragon.lbm to the convert command.)

-g Replaces colors with a specified number of shades of gray.

CONVERSION WITHOUT PROMPTS

If you're already familiar with DeluxePaint's conversion utility, you can simply type in the convert command. To convert without the aid of prompts:

▶ Boot your machine and go to the directory in which you stored DeluxePaint. At the DOS prompt, type `CONVERT ?` and press Enter.

An onscreen summary of the Convert utility appears, followed by another DOS prompt. The syntax for the Convert command is:

```
CONVERT <INPUT TYPE> <INPUT NAME> <OUTPUT TYPE> <OUTPUT
NAME> <OPTIONS>
```

The brackets < > indicate a specific piece of information you must provide. *Don't* type the brackets when typing the convert command.

Here's an example of what you'd type to convert a Microsoft Windows Paint file called RAINBOW.MSP into a DeluxePaint II Enhanced file called RAINBOW.lbm:

```
convert -w rainbow.msp -d rainbow.lbm
```

★ You must add the extension .lbm to all DeluxePaint files you create.

USING A CONVERTED PAINT FILE

Once you get the message "File successfully converted," start the appropriate paint program and then load the file you just created. Modify the file in whatever way you want.

Because of certain file format characteristics, most color information will be lost when you convert a DeluxePaint picture to PC Paintbrush 3.0, MCGA 320 x 200 format (256 colors). You can, however, introduce up to 256 colors back to the picture.

If you want to print a picture that you've converted into Microsoft Windows Paint 2.0, you'll probably have to "cut" out the picture, select New, and then "paste" the picture back on the blank screen. This sets the page size such that Windows Paint can print it out on your printer without distortion.

CAMERA

The Camera utility takes a picture (a "screen dump") of any image on the screen and saves the picture as a DeluxePaint picture file. (Camera supports the same screen formats that DeluxePaint supports.) For example, you can start a spreadsheet program and use Camera to take a picture of a graph created with that program. Then you can start DeluxePaint, load the DeluxePaint picture file you just created, embellish, edit, and print it.

Camera takes a picture of the graphic image on the screen *plus* any program menus, icons, and borders that are currently displayed. If your image is larger than screen size, Camera does *not* capture any portions of the image that are not currently displayed on the screen. Note also that Camera will not take pictures of text screens; the screen must be displayed in a supported graphic mode.

If you want to convert a PC Paintbrush 3.0, Microsoft Windows Paint 2.0, or MacPaint file into a DeluxePaint file or vice versa, we recommend that you use the Convert utility (especially if your image is larger than screen size).

LOADING CAMERA

Camera is a memory-resident program that you load before you load your application programs. Once loaded, Camera remains in the computer's memory until you reboot the computer.

The easiest way to use Camera is to load it in its standard form. Here's how:

- Boot your machine and go to the directory in which you stored DeluxePaint. At the DOS prompt, type CAMERA and press Enter.

A brief message appears if Camera is successfully loaded into memory. If the message didn't appear, follow the instructions in "Command Line Options" below to specify the screen format in which Camera will be used.

★ Because DeluxePaint requires significant amounts of memory, we recommend that you do *not* use Camera or have other TSR (Terminate and Stay Resident) programs running. In fact, other programs might not work with Camera loaded. If you have loaded Camera and then want to use DeluxePaint or these other programs, reboot your computer first to remove Camera from memory.

TAKING A PICTURE

Once your graphics program is loaded and you have the desired image on the screen, take a picture of it by pressing the "hot key" that activates Camera. If you loaded the program in its standard form, the hot key is Alt-c; simply hold down Alt and press c on the keyboard.

CAUTION After pressing Alt-c, don't press any keys or move the mouse until Camera has finished taking the picture. Such movement disturbs Camera and you won't get the picture you wanted.

You'll hear two high-pitched beeps if Camera successfully took a screen shot. Camera then saves the screen to a file named SCREEN00.lbm. If you take additional pictures, Camera will assign the names SCREEN01.lbm, SCREEN02.lbm, and so on. The pictures are stored in the current directory or subdirectory. After you've taken your pictures, you should rename them (in DOS) with a more descriptive file name, but keep the extension as .lbm so that DeluxePaint will recognize the file as a picture file. The rename command would look something like this:

RENAME SCREEN00.lbm MYPICT.lbm.

★ If Camera cannot determine the current values of the colormaps used to create the screen, Camera will use the default colormaps built into the Camera. If you need to adjust the colors, you can do so in DeluxePaint.

IF CAMERA DID NOT SAVE A PICTURE

If you hear a single low-pitched buzz when you press the hot key, Camera was unable to save the screen, either because it does not support the current screen format (or could not determine the format used), or because it could not access the current drive (write-protected, or disk full). Check to see that your disk is not write-protected or full and that you loaded Camera correctly for your screen format.

Sometimes Camera cannot immediately take a picture because DOS is busy performing some task for the foreground program, including getting input from the keyboard. If DOS is busy, Camera waits until DOS is no longer busy before taking the picture. (This is most noticeable when the foreground program has called DOS to get input from the keyboard.) If you press the hot key in this case, nothing will happen and DOS will continue to wait for keyboard input. In this case, press a key other than the hot key; then DOS will give control back to the foreground program, and Camera will take the picture.

COMMAND LINE OPTIONS

This section explains how to modify the command line for loading Camera to specify a hot key or screen format.

DEFINING A HOT KEY

Camera's default hot key `Alt-c` works with most programs. However, this hot key may clash with other programs (especially keyboard enhancers). If necessary, you can define a different hot key when you first load Camera by adding a hot key "switch" to the Camera command line. The syntax for the Camera command is:

Camera /key=*hot key definition*

The hot key definition lists the combination of keys you want to use as your hot key. You can include one or two so-called *shift* keys (**Alt**, **Control**, **Right Shift** and **Left Shift**), optionally followed by a single letter (*a-z*). For example, you can define your hot key as **Alt**, **Alt-Control**,

Alt-a, or **Control-Right Shift-s.** The Camera command line for these examples would look like the following:\

```
Camera /key={alt}
Camera /key={alt}{ctrl}
Camera /key={alt}a
Camera /key={ctrl}{right_shift}s
```

Note that the names of the *shift* keys are enclosed in brackets and that the words "right" and "shift" (or "left" and "shift") must be joined with an underscore character.

Remember that to use your hot key, you must hold down all the keys at once. That is, if your hot key is **Control-Right Shift-s,** you must hold down the Control key and the Right-Shift key and then press **s**.

Some memory-resident programs (most notably, keyboard enhancers), switch the keyboard input buffer so that Camera cannot find it. If one of these is loaded with Camera, specify only shift keys ({alt} {control}, etc.) in your hot key definition, *NOT* a letter key. Also, on some keyboards, pressing Right Shift and Left Shift and certain letters at the same time generates no action, so do not combine *both* Shifts and a letter in a hot key definition.

SPECIFYING A SCREEN FORMAT

In most cases, to use Camera, you do not need to specify which screen format your image is in. Camera can determine the screen format without help. *Only* specify a screen format if you are using a Hercules adapter or if Camera did not successfully take a picture when loaded in the standard form.

To specify the screen format, add a screen format switch to the command line when you load Camera. The syntax for the Camera command line is:

```
Camera /format=screen format
```

For screen format, use one of the letters in Table B.1. (These are the same letters you use to specify your screen format when you start Deluxe-Paint.)

For example, suppose you have an EGA adapter and the image you want to take a picture of is displayed in 320 x 200 resolution. You would type:

```
Camera /format=c
```

SPECIFYING A HOT KEY AND A SCREEN FORMAT

You can also specify both a hot key and a screen format on the command line when you load Camera. For example:

```
Camera /key={alt}s /format=c
```

APPENDIX C

GALLERY

Gallery is a utility for creating your own desktop presentations with DeluxePaint pictures. Gallery documents (.gal) consist of a series of pictures (.lbm format only) and specifications for their presentation. In particular, you can specify whether transitions occur upon manual command (a mouse click or key press) or automatically (with a designated number of seconds between pictures). You can also specify the type of transition between pictures, such as fades, dissolves, or checkerboards.

★ A Gallery presentation can contain up to 60 slides.

"PLAYME"

Before you create your own Gallery document, you may want to watch one we created for you.

To load Gallery:

- Boot your machine and go to the directory in which you stored DeluxePaint. At the DOS prompt, type `GALLERY` and press Enter.
- Select a screen format that matches your graphics adapter (see Chapter 1, *Selecting a Screen Format* if you need help).
- Choose **Load Gallery** from the File menu. From the Load Gallery dialog box, open the *artwork* directory and select playme.gal (if it's not highlighted) and click Open. The main Gallery window displays the 4 slides that make up playme.
- Choose **Run Slideshow** from the Show menu.

To stop the show, press the Esc key at any time. This takes you back to the main Gallery window.

To start the show again, select **Run Slideshow** again.

You can read more about these options below. For now, you may wish to experiment with some of the transitions you saw in playme. They're all available from the Transitions menu. Just pull down the Transitions menu, and select one of them. If you select **Run Slideshow** now, you'll see the same pictures with the new transition.

CREATING A GALLERY PRESENTATION

To create a new Gallery presentation:

- Choose **New Gallery** from the File menu.

This creates a new Gallery document and displays the main Gallery window. The main Gallery window consists of the work area, where you can insert pictures and arrange their order, and the five menus, ? (About), File, Show, Transitions, and Delay.

The first step in the creation of a Gallery document involves selecting the pictures to go into your presentation.

- Select **Insert Picture** from the File menu to bring up the Insert Picture dialog.
- To insert a picture, find it in the appropriate subdirectory, highlight its name in the list window, and click Insert.

  This places the picture in the first available slot in the Gallery window. The Insert Picture dialog reappears so you can add more pictures. New pictures are inserted following existing pictures, or following the selected picture, if any (see below). When you insert a picture, a number appears on the right side of the Menu Bar. If this is the first picture you've inserted, the number reads 1-1; if it's the second picture, 1-2, etc. The number after the dash keeps track of the total number of pictures in your gallery. The number before the dash is the number of the first picture in your Gallery window.
- When you've inserted the pictures you want in your presentation, click Done to return to the Gallery window.

Note that the last picture you inserted is highlighted with a black border around it. This indicates that the picture is selected. You can remove a selected picture from the presentation by selecting **Remove Picture** from the File menu.

► You cannot undo the removal of a selected picture. If you need to re-insert a picture, choose **Insert Picture** from the File menu.

Once you have inserted the pictures you want in the presentation, you can rearrange them by dragging them around the window. To drag a picture to a new location, just point to it, press and hold down the mouse button while you drag it. Release the mouse button to insert the picture in its new location. The pictures will shift to fill in the space left by the picture you moved.

★ If your Gallery presentation contains more than 12 pictures (more than 1 Gallery window), you can move among the windows by pressing the Pg Up and Pg Dn keys.

► The second step in the creation of a Gallery document involves specifying the parameters for the presentation, such as the type of transition from one picture to the next, and the duration of each picture. Choose these parameters from the Show, Transitions, and Delay menus.

First, you can choose whether to present your pictures manually or automatically from the Show menu. Select **Manual Switch** if you want to change pictures by clicking the mouse. This puts a check in the Manual Switch box. If you want Gallery to change pictures for you, after a specified duration, make sure **Manual Switch** is turned off (remove the X). In that case, you'll need to choose a duration from Delay menu. This menu gives you 15 preset time durations—between one to sixty seconds.

If you use automatic switching, the presentation will keep cycling continuously until you press Esc to stop it. If you choose **Manual Switch**, on the other hand, your presentation will start with a black screen, cycle through once, and end up with a black screen or go back to the main Gallery window, depending on which of these options you have selected (see **Black Screen At End**, below).

Once you have chosen a way to present your slides (manual or automatic), you can choose transition types for your presentation. Choose from the following types of transitions:

Random—Makes a random selection from the transitions below.

Cut — Jumps to black, and then jumps to the next picture in the series.

Fade—Fades out of one picture and fades into the next picture.

Blend— Makes a smooth transition between the two pictures.

Horizontal Blinds — Creates the effect of venetian blinds opening to reveal the next picture.

Vertical Blinds — Same as Horizontal Blinds above, except in a vertical orientation.

Zoom In — Pictures black out from the four corners, and the next picture is revealed in the same manner.

Zoom Out — Same as Zoom In above, except that the picture blacks out from the center out, and the next picture is revealed from the center out.

ADDITIONAL PARAMETERS

The Show menu gives you control over four additional parameters, as follows:

Black Screen At Start—Select this option if you want to begin your presentation with a completely black screen each time you choose **Run Slideshow**. If you run through your slideshow more than once, however, a black screen will **not** appear between your last slide and first slide.

Black Screen At End — With this option selected, the screen will fade to black after the last picture, instead of going back to the main Gallery window. This is helpful if you are making a formal presentation, and you don't want to go back to the Gallery window. This option is only available if you have Manual Switch selected (see above).

Color Cycling—If any of the pictures in your presentation contain color cycling information (see the Reference section for more information on this DeluxePaint feature), this option will turn color cycling on before displaying the picture. Use this feature to create presentations with animation effects.

Common Palette — If the pictures in your presentation don't share a common palette, the screen turns black during transitions. Should all the pictures in your gallery have a common palette, you can eliminate the black transitions by selecting Common Palette.

REFERENCE

Use this reference guide to find Gallery information quickly.

QUESTION MARK (?) MENU

The Question Mark menu gives you copyright information about DeluxePaint II Enhanced's Gallery, the version number of the program and the name of the designer.

FILE MENU

The File menu controls the creation and manipulation of Gallery documents. Use the File menu to Open, Close or Save Gallery documents, and to create or modify existing documents by inserting or removing pictures.

NEW GALLERY (Keyboard Equivalent: `n`)
Opens a new Gallery document and displays the main Gallery window (see illustration above).

LOAD GALLERY (Keyboard Equivalent: `l`)
Brings up an Open File dialog, from which you can load an existing Gallery document. Load a Gallery document by double-clicking its name in the dialog, or by clicking once and then clicking Open.

★ For a quick way to open an existing Gallery presentation from the DOS prompt, type: `Gallery [-f <filename>] [<mode>]`

The commands in brackets are optional (do not type the brackets). -f means load the gallery document, but don't play it; filename means enter the complete pathname; and mode means enter the current screen format. So, to load the playme.gal file (from the artwork subdirectroy) in screen format f, you would type, at the DOS prompt:

```
Gallery -f artwork/playme.gal f
```

★ You can only run Gallery from the drive on which the Gallery program resides. You cannot specify a different drive. In fact, as you can see, you don't need to specify a drive name when you enter the pathname.

SAVE GALLERY (Keyboard Equivalent: s)
Saves the Gallery file under its current name. If the current file is unnamed, the Save dialog appears. Click the drive and subdirectory where you want to save your presentation, and give it a name.

★ If you ever copy a Gallery presentation from your hard drive to a floppy disk, be sure to leave 20-30K available on the floppy. DeluxePaint needs that space to create the .gal file.

INSERT ALL (Keyboard Equivalent: a)
Brings up a standard Load File dialog called Insert All that lists all the files on the disk or directory. Click Insert All to insert all the pictures from the current directory into the current Gallery.

INSERT PICTURE (Keyboard Equivalent: i)
Brings up a standard Load File dialog, and lists all the files on the disk or directory. Use this dialog to choose the pictures that will go into your presentation. Select pictures one at a time by double-clicking the file name or by clicking it once and then clicking Insert. Each time you insert a picture, a miniaturized version of it appears in the Gallery window, already selected. You can rearrange the order of your presentation by dragging these miniaturized pictures around the Gallery window. Placing a picture on top of an existing one inserts the new picture in that location. The existing picture shifts to the side in the direction that fills the gap left by the picture you moved.

REMOVE PICTURE
Removes the currently selected picture from the Gallery.

QUIT (Keyboard Equivalent: q)
Quits Gallery and returns you to DOS.

SHOW MENU

The Show menu provides you with options for customizing your presentation. For example, you can choose whether to switch pictures manually or automatically, and whether to turn on color cycling. This menu is covered in detail under the section *Additional Parameters*, above.

★ In **Manual Switch** mode, you can switch to the next picture by clicking the mouse or pressing any key other than the Left-Arrow or Esc. To go to the previous picture, press the Left-Arrow. Note that it may take longer to switch to the previous picture than to switch to the next picture.

RUN SLIDESHOW (Keyboard Equivalent: r)
Plays your Gallery presentation.

★ For a quick way to run an existing Gallery presentation from the DOS prompt, type: Gallery [-r <filename>] [<mode>]. Press Enter. The commands in brackets are optional (do not type the brackets). -r means load and play the gallery document; filename means enter the complete pathname; and mode means enter the current screen format. So, to load and play the playme.gal file (from the artwork subdirectroy) in screen format f, you would type, at the DOS prompt:

```
Gallery -r artwork/playme.gal f
```

CAUTION You can only run Gallery from the drive on which the Gallery program resides. You cannot specify a different drive. In fact, as you can see, you don't need to specify a drive name when you enter the pathname. If you do specify a different drive you'll get a message that says:

Sorry, a drive letter is not permitted in the initial file name.

Press OK and immediately exit Gallery. To do this, *DO NOT PRESS THE ESC KEY*. Simply press `q` to quit Gallery and return to DOS.

★ You can only run slideshows using this command; you cannot edit your slideshows in this mode.

TRANSITIONS MENU

Choose the transition you want to use from this menu. Gallery will use the same transition for all the pictures in the show unless you choose Random, in which case it will make a random selection from the entire range of transitions (see *Creating a Gallery Presentation*, above).

DELAY MENU

Set the amount of time you want to display each slide in your presentation. The number of seconds you choose here does not include the transition effect you're using. Delay here refers only to the length of time the slide itself is on the screen.

MANAGING MEMORY

DeluxePaint requires 640K of random access memory (RAM) and benefits from additional *expanded* memory (EMS). Even with 640K of RAM, when you are using one or more of DeluxePaint's memory-intensive functions, DeluxePaint might tell you that you don't have enough memory to continue an operation. The functions that use the most memory (RAM) are Fix Background, Stencil, and brush transformation functions, such as Flip, Rotate, and Double.

If you get a "not enough memory" message and cannot proceed with an operation, clear unnecessary information from memory and try the operation again. For example, try replacing the brush used for Pattern Fill with a smaller brush, selecting the Brush Pickup tool and clicking in the Painting Area, or removing the DeluxePaint Camera utility and other memory-resident programs from memory. (To remove Camera, reboot your computer.)

Higher resolution screen formats require more memory for everything than lower resolution formats. If you receive an insufficient memory message when you try to open DeluxePaint, choose a lower resolution screen format. In general, you need 45K of available memory to start the program and do basic design work in format *f* (320 x 200); 70K to use format *k* (640 x 480); and 100K to use E-VGA format *q* (640 x 480 with 256 colors). Once in DeluxePaint you can check your available memory by pressing Control-a.

If you run out of memory frequently, consider upgrading your system in one or more of these ways: Install an EMS 3.2 or 4.0 expanded memory card (4.0 is recommended), or install a RAM disk in extended or expanded memory. DeluxePaint can store your current page, spare page, stencil, and fixed background in expanded memory and, if instructed to do so (in the Spare Page dialog), can swap your spare page to a RAM disk or hard disk, thus leaving more room in base memory for other information about your picture.

KEYBOARD COMMANDS

PICTURE MENU

L or l	Load
S	Save
j	Page<->Spare
J	Page->Spare
V	View Page
Q	Quit

BRUSH MENU

B	Restore
O	Outline
h	Halve ▶ Both
H	Double ▶ Both
X	Double ▶ Width
Y	Double ▶ Height
Z	Stretch ▶ Both
x	Flip ▶ L-to-R
y	Flip ▶ T-to-B
z	Rotate 90°

TECHNIQUES MENU

F1	Paint
F2	Single-Color
F3	Replace
F4	Smear
F5	Shade
F6	Cycle
F7	Smooth
M	Multi-Cycle On/Off

STENCIL MENU

Stencil On/Off

MISCELLANEOUS MENU

F9	Info Bar
Alt-a	Anti-Alias
Alt-r	Colorize
Alt-t	Translucent
Tab	Cycle colors
P	Palette ▶ dialog

PERSPECTIVE COMMANDS

X-AXIS COMMANDS

1 and 3	Rotate about the x-axis
Shift-1 and Shift-3	Rotate 15 degrees (default) about the x-axis
0	Reset all axes to zero
Control-9	Fix x-axis

Y-AXIS COMMANDS

4 and 6	Rotate about the y-axis
Shift-4 and Shift-6	Rotate 15 degrees (default) about the y-axis
0	Reset all axes to zero
Control-6	Fix y-axis

Z-AXIS COMMANDS

7 and 9	Rotate about the z-axis
Shift-7 and Shift-9	Rotate 15 degrees (default) about the z-axis
0	Reset all axes to zero
Control-3	Fix z-axis

OTHER COMMANDS

.	Set perspective center
-	Fill the screen with the current brush at the current perspective
Ins	Enter perspective mode (select Perspective tool)
; and '	Move the brush along the fixed axis in a direction perpendicular to the brush plane
Shift ; and Shift '	Same as ; and ' keys but with a greater increment
Shift . and Shift ,	Modify observer distance from screen
Control	Holding down the Control key temporarily fixes y-axis

TOOLBOX COMMANDS

b	Brush Pickup tool; press again to toggle between Rectangle and Freehand pickup
B	Restore last custom brush
c	Unfilled Circle tool
C	Filled Circle tool
d	Freehand Brush tool (Continuous mode)
D	Filled Freehand tool
e	Unfilled Ellipse tool
E	Filled Ellipse tool
f	Fill tool
F	Fill Type dialog
g	Grid
G	Grid to current brush position
K	Clear page to background color (CLR tool)
m	Toggle Magnify tool
p	Palette dialog
q	Curve tool
r	Unfilled Rectangle tool
R	Filled Rectangle tool
s	Freehand Brush tool (Dotted mode)

t	Text
u	Undo
v	Straight Line (vector) tool
w	Unfilled Polygon tool
W	Filled Polygon tool
/	Toggle Symmetry
>	Zoom in (to enlarge magnified image)
<	Zoom out (to shrink magnified image)
,	Select Color Pickup tool
[and]	Move foreground color up or down the Palette
{ and }	Move background color up or down the Palette
(and)	Move 8 colors in 256-color palette

GENERAL DIALOG COMMANDS

ACTION BUTTONS

Enter	Selects the default action button
Esc	Selects Cancel or its equivalent

LIST WINDOWS

↑ or ↓	Move the highlight up or down the list
PgUp, PgDwn	Scrolls the list by pages
Home	Moves the highlight to the first item in list
End	Moves the highlight to the last item in list
Letter keys	Moves highlight to the first item beginning with that letter

EDIT BOXES

← and →	Moves the cursor in the edit box
Home	Move cursor to beginning of edit box
End	Move cursor to end of edit box
Tab	Move cursor between edit boxes
Del	Delete character to the right of the cursor
Backspace	Delete character to the left of the cursor

LOAD DIALOG COMMANDS

Backspace	Move back one directory in the path

PALETTE DIALOG COMMANDS

c	Copy
g	→ Gradient
r	Spread
s	Swap
u	Undo last color change
Esc	Cancel
Enter	OK
[or]	Move foreground Color Indicator up and down
{ or }	Move background Color Indicator up and down
↑ or ↓	Move the range lines throughthe colors

GRADIENTS DIALOG COMMANDS

b	Build
c	Copy-G
s	Swap-G
p	→Palette
u	Undo
Esc	Cancel
Enter	OK

SPECIAL KEYS

F9	Toggle to hide/display Info Bar
F10	Toggle to hide/display Menu Bar and Toolbox
Enter	Move cursor in Text mode
Esc	Exit Text mode
←, →, ↑ or ↓	Scroll page; in Text mode, move cursor
n	Center area under the cursor; in Magnify mode, move area under the cursor to center of magnified area
Shift	Constrain with Rectangle, Straight Line, and Polygon tools
Control	Leave traces with Line or Shape tools
Control-a	Check memory (in Info Bar)
Tab	Toggle color cycle on and off
` (above Tab key)	Toggle stencil on and off
a	Repeat last menu option (Mnemonic: Again)
Spacebar	Abort current command
-	Reduce brush size
=	Increase brush size
.	Return to selected built-in brush

PRINTERS SUPPORTED BY DELUXEPAINT II ENHANCED

Alps ASP1000
Alps Allegro 24

Apple Imagewriter II (M)
Apple Imagewriter II (C)

Blue Chip M120/10

Brother M1109/1209/1809
Brother M1809 (C)
Brother M1409/1509
Brother M1709/1909
Brother M1724/2024L
Brother M1824L (M)
Brother M1824L (C)
Brother M1924L
Brother M2518/4018 (M)
Brother M2518/4018 (C)

Canon PJ-1080A (C)

C Itoh 1550 Series (M)
C Itoh 1550 Series (C)
C Itoh 8510 Series (M)
C Itoh 8510 Series (C)
C Itoh C-310 XP (M)
C Itoh C-310 CXP (C)
C Itoh C-315 XP (M)
C Itoh C-315 CXP (C)
C Itoh C-715

M = Monochrome
C = Color

Citizen MSP 15/25/45
Citizen MSP 50 (M)
Citizen MSP 50 (C)
Citizen MSP 55 (M)
Citizen MSP 55 (C)
Citizen Tribute 124
Citizen Tribute 224
Citizen 120D/180D
Citizen 5200/5800
Citizen HSP 500 (M)
Citizen HSP 500 (C)
Citizen HSP 550 (M)
Citizen HSP 550 (C)
Citizen MSP 10/20/40

Epson EX 800 (M)
Epson EX 800 (C)
Epson EX 1000 (M)
Epson EX 1000 (C)
Epson FX 80/85/86e/850
Epson FX 100/185/286/1050
Epson JX 80 (M)
Epson JX 80 (C)
Epson LQ 500/510
Epson LQ 800/850
Epson LQ 950
Epson LQ 1000/1050/1500
Epson LQ 2500/2550 (M)
Epson LQ 2500/2550 (C)
Epson LX 80/86/90/800/810
Epson MX 80 Graftrax
Epson MX 100 Graftrax
Epson RX 80
Epson RX 100

Fujitsu DL2400/2600 (M)
Fujitsu DL2400/2600 (C)
Fujitsu DL3300 (M)
Fujitsu DL3300 (C)
Fujitsu DL3400/5600 (M)
Fujitsu DL3400/5600 (C)
Fujitsu DX2300 (M)
Fujitsu DX2300 (C)
Fujitsu DX2400 (M)
Fujitsu DX2400 (C)

HP DeskJet/+ (75 dpi)
HP DeskJet/+ (150 dpi)
HP DeskJet/+ (300 dpi)
HP LaserJet (75 dpi)
HP LaserJet+/II (75 dpi)
HP LaserJet+/II (150 dpi)
HP LaserJet+/II (300 dpi)
HP PaintJet (C)
HP QuietJet
HP Rugged Writer

IBM Compact Printer
IBM Graphics Printer
IBM Personal Pageprinter
IBM Proprinter/II/III
IBM Proprinter XL Series
IBM Proprinter X 24
IBM Proprinter XL 24
IBM Quickwriter
IBM Quietwriter III

Juki 5510 (M)
Juki 5510 (C)
Juki 7100/7200 (M)

Laser 190E

Mannesmann Tally 85/87/90
Mannesmann Tally 86
Mannesmann Tally 290
Mannesmann Tally 222 (M)
Mannesmann Tally 222 (C)
Mannesmann Tally 230 (M)
Mannesmann Tally 230 (C)
Mannesmann Tally 340 (M)
Mannesmann Tally 340 (C)

NEC 8023A
NEC Pinwriter P5/P7 (M)
NEC Pinwriter P5/P7 (C)
NEC Pinwriter P6 (M)
NEC Pinwriter P6 (C)
NEC Pinwriter P9 (M)
NEC Pinwriter P9 (C)
NEC Pinwriter P220
NEC Pinwriter P5200 (M)
NEC Pinwriter P5200 (C)
NEC Pinwriter P5300 (M)
NEC Pinwriter P5300 (C)

Okidata ML 92/192/+ OKI
Okidata ML 92/192/+ IBM
Okidata ML 93/193 OKI
Okidata ML 93/193 IBM
Okidata ML 180/182+ OKI
Okidata ML 180/182+ IBM
Okidata ML 182/183 IBM
Okidata ML 183/+/193/+ OKI
Okidata ML 183/+/193/+ IBM
Okidata ML 292 (M)
Okidata ML 292 (C)
Okidata ML 293/294 (M)
Okidata ML 293/294 (C)
Okidata ML 320
Okidata ML 321
Okidata ML 390

Okidata ML 391/393 (M)
Okidata ML 393 (C)
Okidata Okimate 20 (C)

Panasonic KX-P1080i/1180
Panasonic KX-P1081/1080i
Panasonic KX-P1090i/1191
Panasonic KX-P1092/1092i
Panasonic KX-P1124
Panasonic KX-P1524
Panasonic KX-P1592/1595

Ricoh PC Laser 6000 (75)
Ricoh PC Laser 6000 (150)
Ricoh PC Laser 6000 (300)

Sharp JX-730

Star GEMINI 10X
Star GEMINI 15X
Star NB24-10
Star NB15/NB24-15
Star NL10
Star NX10/ND10/NR10
Star NX15/ND15/NR15
Star NX1000 (M)
Star NX1000 (C)
Star NX2400
Star XR1000 (M)
Star XR1000 (C)
Star XR1500 (M)
Star XR1500 (C)
Star XB2410 (M)
Star XB2410 (C)
Star XB2415 (M)
Star XB2415 (C)

Tandy DMP 106 IBM
Tandy DMP 130/132 IBM
Tandy DMP 430/440 IBM
Tandy DMP 2110/2120 IBM

Toshiba P321/SL/SX
Toshiba P321SLC (C)
Toshiba P341/351/SL
Toshiba P351C/SX (M)
Toshiba P351C/SX (C)

Xerox 4020 (C)

NOTES

CREDITS

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